


STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

FORM 3

AMENDED REPORT ☐**APPLICATION FOR PERMIT TO DRILL**

2. TYPE OF WORK DRILL NEW WELL <input checked="" type="checkbox"/> REENTER P&A WELL <input type="checkbox"/> DEEPEN WELL <input type="checkbox"/>				1. WELL NAME and NUMBER NBU 920-24B		
4. TYPE OF WELL Gas Well Coalbed Methane Well: NO				3. FIELD OR WILDCAT NATURAL BUTTES		
6. NAME OF OPERATOR KERR-MCGEE OIL & GAS ONSHORE, L.P.				5. UNIT or COMMUNITIZATION AGREEMENT NAME NATURAL BUTTES		
8. ADDRESS OF OPERATOR P.O. Box 173779, Denver, CO, 80217				7. OPERATOR PHONE 720 929-6587		
10. MINERAL LEASE NUMBER (FEDERAL, INDIAN, OR STATE) UTU-0579		11. MINERAL OWNERSHIP FEDERAL <input checked="" type="checkbox"/> INDIAN <input type="checkbox"/> STATE <input type="checkbox"/> FEE <input type="checkbox"/>		9. OPERATOR E-MAIL mary.mondragon@anadarko.com		
13. NAME OF SURFACE OWNER (if box 12 = 'fee')				12. SURFACE OWNERSHIP FEDERAL <input type="checkbox"/> INDIAN <input checked="" type="checkbox"/> STATE <input type="checkbox"/> FEE <input type="checkbox"/>		
15. ADDRESS OF SURFACE OWNER (if box 12 = 'fee')				14. SURFACE OWNER PHONE (if box 12 = 'fee')		
17. INDIAN ALLOTTEE OR TRIBE NAME (if box 12 = 'INDIAN') Ute				16. SURFACE OWNER E-MAIL (if box 12 = 'fee')		
18. INTEND TO COMMINGLE PRODUCTION FROM MULTIPLE FORMATIONS YES <input type="checkbox"/> (Submit Commingling Application) NO <input checked="" type="checkbox"/>		19. SLANT VERTICAL <input checked="" type="checkbox"/> DIRECTIONAL <input type="checkbox"/> HORIZONTAL <input type="checkbox"/>				
20. LOCATION OF WELL	FOOTAGES	QTR-QTR	SECTION	TOWNSHIP	RANGE	MERIDIAN
LOCATION AT SURFACE	473 FNL 2377 FEL	NWNE	24	9.0 S	20.0 E	S
Top of Uppermost Producing Zone	473 FNL 2377 FEL	NWNE	24	9.0 S	20.0 E	S
At Total Depth	473 FNL 2377 FEL	NWNE	24	9.0 S	20.0 E	S
21. COUNTY UINTAH		22. DISTANCE TO NEAREST LEASE LINE (Feet) 473		23. NUMBER OF ACRES IN DRILLING UNIT 1920		
		25. DISTANCE TO NEAREST WELL IN SAME POOL (Applied For Drilling or Completed) 2000		26. PROPOSED DEPTH MD: 10400 TVD:		
27. ELEVATION - GROUND LEVEL 4751		28. BOND NUMBER WYB000291		29. SOURCE OF DRILLING WATER / WATER RIGHTS APPROVAL NUMBER IF APPLICABLE Permit #43-8496		

ATTACHMENTS**VERIFY THE FOLLOWING ARE ATTACHED IN ACCORDANCE WITH THE UTAH OIL AND GAS CONSERVATION GENERAL RULES**

<input checked="" type="checkbox"/> WELL PLAT OR MAP PREPARED BY LICENSED SURVEYOR OR ENGINEER	<input checked="" type="checkbox"/> COMPLETE DRILLING PLAN
<input type="checkbox"/> AFFIDAVIT OF STATUS OF SURFACE OWNER AGREEMENT (IF FEE SURFACE)	<input type="checkbox"/> FORM 5. IF OPERATOR IS OTHER THAN THE LEASE OWNER
<input type="checkbox"/> DIRECTIONAL SURVEY PLAN (IF DIRECTIONALLY OR HORIZONTALLY DRILLED)	<input checked="" type="checkbox"/> TOPOGRAPHICAL MAP
NAME Kevin McIntyre	TITLE Regulatory Analyst I
SIGNATURE	PHONE 720 929-6226
	DATE 09/17/2008
	EMAIL Kevin.McIntyre@anadarko.com
API NUMBER ASSIGNED 43047501130000	APPROVAL  Permit Manager

Proposed Hole, Casing, and Cement						
String	Hole Size	Casing Size	Top (MD)	Bottom (MD)		
Surf	12.25	9.625	0	2800		
Pipe	Grade	Length	Weight			
	Grade J-55 LT&C	2800	36.0			
	Cement Interval	Top (MD)	Bottom (MD)			
		0	2800			
		Cement Description	Class	Sacks	Yield	Weight
			Premium Foamed Cement	215	1.18	15.6

Proposed Hole, Casing, and Cement						
String	Hole Size	Casing Size	Top (MD)	Bottom (MD)		
Prod	7.875	4.5	0	10400		
Pipe	Grade	Length	Weight			
	Grade I-80 LT&C	10400	11.6			
	Cement Interval	Top (MD)	Bottom (MD)			
		0	10400			
		Cement Description	Class	Sacks	Yield	Weight
			Premium Lite High Strength	490	3.38	11.0
			Pozzuolanic Cement	1640	1.31	14.3



KERR-McGEE OIL & GAS ONSHORE LP
DRILLING PROGRAM

COMPANY NAME	KERR-McGEE OIL & GAS ONSHORE LP	DATE	September 10, 2008
WELL NAME	NBU 920-24B	TD	10,400' MD/TVD
FIELD	Natural Buttes	COUNTY	Uintah
		STATE	Utah
ELEVATION	4,751' GL	KB	4,766'
SURFACE LOCATION	NWNE 473' FNL & 2377' FEL, Sec. 24, T 9S R 20E	BHL	Straight Hole
Latitude:	40.027060	Longitude:	-109.613310
		NAD 27	
OBJECTIVE ZONE(S)	Wasatch/Mesaverde		
ADDITIONAL INFO	Regulatory Agencies: BLM (MINERALS), BIA (SURFACE), UDOGM, Tri-County Health Dept.		

GEOLOGICAL FORMATION			MECHANICAL		
LOGS	TOPS	DEPTH	HOLE SIZE	CASING SIZE	MUD WEIGHT
		40'		14"	
			12-1/4"	9-5/8", 36#, J-55, LTC	Air mist
Catch water sample, if possible, from 0 to	5,022'				
	Green River @	1,640'			
	Top of Birds Nest Water @	1,887'			
	Mahogany @	2,401'			
	Preset #/ GL @				
	2,800' MD				
Note: 12.25" surface hole will usually be drilled ±400' below the bottom of lost circulation zone. Drilled depth may be ±200' of the estimated set depth depending on the actual depth of the loss zone.					
Mud logging program TBD					
Open hole logging program #/ TD - surf csg			7-7/8"	4-1/2", 11.6#, I-80 or equivalent LTC casing	Water/Fresh Water Mud 8.3-11.5 ppg
	Wasatch @	5,022'			
	Mverde @	8,200'			
	MVU2 @	9,153'			
	MVL1 @	9,632'			
	TD @	10,400'			Max anticipated Mud required 12.5 ppg



KERR-McGEE OIL & GAS ONSHORE LP

DRILLING PROGRAMCASING PROGRAM

	SIZE	INTERVAL	WT.	GR.	CPLG.	DESIGN FACTORS		
						BURST	COLLAPSE	TENSION
CONDUCTOR	14"	0-40'				3520	2020	453000
SURFACE	9-5/8"	0 to 2,800'	36.00	J-55	LTC	0.79	1.54	5.13
						7780	6350	201000
PRODUCTION	4-1/2"	0 to 10400	11.60	I-80	LTC	1.74	0.94	1.91

1) Max Anticipated Surf. Press (MASP) (Surface Casing) = (Pore Pressure at next csg point - (0.22 psi/ft - partial evac gradient x TVD of next csg point))

2) MASP (Prod Casing) = Pore Pressure at TD - (.22 psi/ft - partial evac gradient x TD)

(Burst Assumptions: TD = 12.5 ppg)

.22 psi/ft = gradient for partially evac wellbore

(Collapse Assumption: Fully Evacuated Casing, Max MW)

(Tension Assumptions: Air Weight of Casing * Buoy. Fact. of water)

MASP 4160 psi

CEMENT PROGRAM

		FT. OF FILL	DESCRIPTION	SACKS	EXCESS	WEIGHT	YIELD
SURFACE	LEAD	500	Premium cmt + 2% CaCl + .25 pps flocele	215	60%	15.60	1.18
Option 1	TOP OUT CMT (1)	250	20 gals sodium silicate + Premium cmt + 2% CaCl + .25 pps flocele	100		15.60	1.18
	TOP OUT CMT (2)	as required	Premium cmt + 2% CaCl	as req.		15.60	1.18
SURFACE			NOTE: If well will circulate water to surface, option 2 will be utilized				
Option 2	LEAD	2000	Prem cmt + 16% Gel + 10 pps gilsonite +.25 pps Flocele + 3% salt BWOC	230	35%	11.00	3.82
	TAIL	500	Premium cmt + 2% CaCl + .25 pps flocele	180	35%	15.60	1.18
	TOP OUT CMT	as required	Premium cmt + 2% CaCl	as req.		15.60	1.18
PRODUCTION	LEAD	4,520'	Premium Lite II + 3% KCl + 0.25 pps celloflake + 5 pps gilsonite + 10% gel + 0.5% extender	490	60%	11.00	3.38
	TAIL	5,880'	50/50 Poz/G + 10% salt + 2% gel +.1% R-3	1640	60%	14.30	1.31

*Substitute caliper hole volume plus 0% excess for LEAD if accurate caliper is obtained

*Substitute caliper hole volume plus 10% excess for TAIL if accurate caliper is obtained

FLOAT EQUIPMENT & CENTRALIZERS

SURFACE	Guide shoe, 1 jt, insert float. Centralize first 3 joints with bow spring centralizers. Thread lock guide shoe.
PRODUCTION	Float shoe, 1 jt, float collar. Centralize first 3 joints & every third joint to top of tail cement with bow spring centralizers.

ADDITIONAL INFORMATION

Test casing head to 750 psi after installing. Test surface casing to 1,500 psi prior to drilling out.

BOPE: 11" 5M with one annular and 2 rams. Test to 5,000 psi (annular to 2,500 psi) prior to drilling out. Record on chart recorder &

tour sheet. Function test rams on each trip. Maintain safety valve & inside BOP on rig floor at all times. Kelly to be equipped with upper & lower kelly valves.

Drop Totco surveys every 2000'. Maximum allowable hole angle is 5 degrees.

Most rigs have PVT Systems for mud monitoring. If no PVT is available, visual monitoring will be utilized.

DRILLING ENGINEER:

Brad Laney

DATE: _____

DRILLING SUPERINTENDENT:

Randy Bayne

DATE: _____

**NBU 920-24B
NWNE Sec. 24, T9S, R20E
UINTAH COUNTY, UTAH
UTU-0579**

ONSHORE ORDER NO. 1

DRILLING PROGRAM

1. Estimated Tops of Important Geologic Markers:

<u>Formation</u>	<u>Depth</u>
Uinta	0- Surface
Green River	1640'
Bird's Nest	1887'
Mahogany	2401'
Wasatch	5022'
Mesaverde	8200'
MVU2	9153'
MVL1	9632'
TD	10,400'

2. Estimated Depths of Anticipated Water, Oil, Gas, or Mineral Formations:

<u>Substance</u>	<u>Formation</u>	<u>Depth</u>
	Green River	1640'
	Bird's Nest	1887'
	Mahogany	2401'
Gas	Wasatch	5022'
Gas	Mesaverde	8200'
Gas	MVU2	9153'
Gas	MVL1	9632'
Water	N/A	
Other Minerals	N/A	

3. Pressure Control Equipment (Schematic Attached)

Please see the Natural Buttes Unit Standard Operating Procedure (SOP).

4. Proposed Casing & Cementing Program:

Please see the Natural Buttes Unit SOP. See attached drilling diagram.

5. Drilling Fluids Program:

Please see the Natural Buttes Unit SOP.

6. **Evaluation Program:**

Please see the Natural Buttes Unit SOP.

7. **Abnormal Conditions:**

Maximum anticipated bottomhole pressure calculated at 10,400' TD, approximately equals 6448 psi (calculated at 0.62 psi/foot).

Maximum anticipated surface pressure equals approximately 4160 psi (bottomhole pressure minus the pressure of a partially evacuated hole calculated at 0.22 psi/foot).

8. **Anticipated Starting Dates:**

Drilling is planned to commence immediately upon approval of this application.

9. **Variances:**

*Please see Natural Buttes Unit SOP Onshore Order #2 – Air Drilling Variance
Kerr-McGee Oil & Gas Onshore LP (KMG) respectfully requests a variance to several requirements associated with air drilling outlined in Onshore Order 2*

- *Blowout Prevention Equipment (BOPE) requirements;*
- *Mud program requirements; and*
- *Special drilling operation (surface equipment placement) requirements associated with air drilling.*

This Standard Operating Practices addendum provides supporting information as to why KMG current air drilling practices for constructing the surface casing hole should be granted a variance to Onshore Order 2 air drilling requirements.

The reader should note that the air rig is used only to construct a stable surface casing hole through a historically difficult lost circulation zone. A conventional rotary rig follows the air rig, and is used to drill and construct the majority of the wellbore.

More notable, KMG has used the air rig layout and procedures outlined below to drill the surface casing hole in approximately 675 wells without incident of blow out or loss of life.

Background

In a typical well, KMG utilizes an air rig for drilling the surface casing hole, an interval from the surface to surface casing depths, which varies in depth from 1,700 to 2,800 feet. The air rig drilling operation does not drill through productive or over pressured formations in KMG field, but does penetrate the Uinta and Green River Formations. The purpose of the air drilling operation is to overcome the severe loss circulation zone in the Green River known as the Bird's Nest while creating a stable hole for the surface casing. The surface casing hole is generally drilled to approximately 500 feet below the Bird's Nest.

Before the surface air rig is mobilized, a rathole rig is utilized to set and cement conductor pipe through a competent surface formation. Generally, the conductor is set at 40 feet. In some cases, conductor may be set deeper in areas that the surface formation is not found competent. This rig also drills the rat and mouse holes in preparation for the surface casing and production string drilling operations.

The air rig is then mobilized to drill the surface casing hole by drilling a 12-1/4 inch hole to just above the Bird's Nest interval with an air hammer. The hammer is then tripped and replaced with a 12-1/4 inch tri-cone bit. The tri-cone bit is used to drill to the surface casing point, approximately 500 feet below the loss circulation zone (Bird's Nest). The 9-5/8 inch surface casing is then run and cemented in place, thereby isolating the lost circulation zone.

KMG fully appreciates Onshore Order 2 well control and safety requirements associated with a typical air drilling operations. However, the requirements of Onshore Order 2 are excessive with respect to the air rig layout and drilling operation procedures that are currently in practice to drill and control the surface casing hole in KMG Fields.

Variance for BOPE Requirements

The air rig operation utilizes a properly lubricated and maintained air bowl diverter system which diverts the drilling returns to a six-inch blooie line. The air bowl is the only piece of BOPE equipment which is installed during drilling operations and is sufficient to contain the air returns associated with this drilling operation. As was discussed earlier, the drilling of the surface hole does not encounter any over pressured or productive zones, and as a result standard BOPE equipment should not be required. In addition, standard drilling practices do not support the use of BOPE on 40 feet of conductor pipe.

Variance for Mud Material Requirements

Onshore Order 2 also states that sufficient quantities of mud materials shall be maintained or readily accessible for the purpose of assuring adequate well control. Once again, the surface hole drilling operations does not encounter over pressured or productive intervals, and as a result there is not a need to control pressure in the surface hole with a mud system. Instead of mud, the air rigs utilize water from the reserve pit for well control, if necessary. A skid pump which is located near the reserve pit (see attachment) will supply the water to the well bore.

Variance for Special Drilling Operation (surface equipment placement) Requirements

Onshore Order 2 requires specific safety distances or setbacks for the placement of associated standard air drilling equipment, wellbore, and reserve pits. The air rigs used to drill the surface holes are not typical of an air rig used to drill a producing hole in other parts of the US. These are smaller in nature and designed to fit a KMG location. The typical air rig layout for drilling surface hole in the field is attached.

Typically the blooie line discharge point is required to be 100 feet from the well bore. In the case of a KMG well, the reserve pit is only 45 feet from the rig and is used for the drill cuttings. The blooie line, which transports the drill cuttings from the well to the reserve pit, subsequently discharges only 45 feet from the well bore.

Typically the air rig compressors are required to be located in the opposite direction from the blooie line and a minimum of 100 feet from the well bore. At the KMG locations, the air rig compressors are approximately 40 feet from the well bore and approximately 60 feet from the blooie line discharge due to the unique air rig design. The air compressors (see attachment) are located on the rig (1250 cfm) and on a standby trailer (1170 cfm). A booster sits between the two compressors and boosts the output from 350 psi to 2000 psi. The design does put the booster and standby compressor opposite from the blooie line.

Lastly, Onshore Order 2 addresses the need for an automatic igniter or continuous pilot light on the blooie line. The air rig does not utilize an igniter as the surface hole drilling operation does not encounter productive formations.

Conclusion

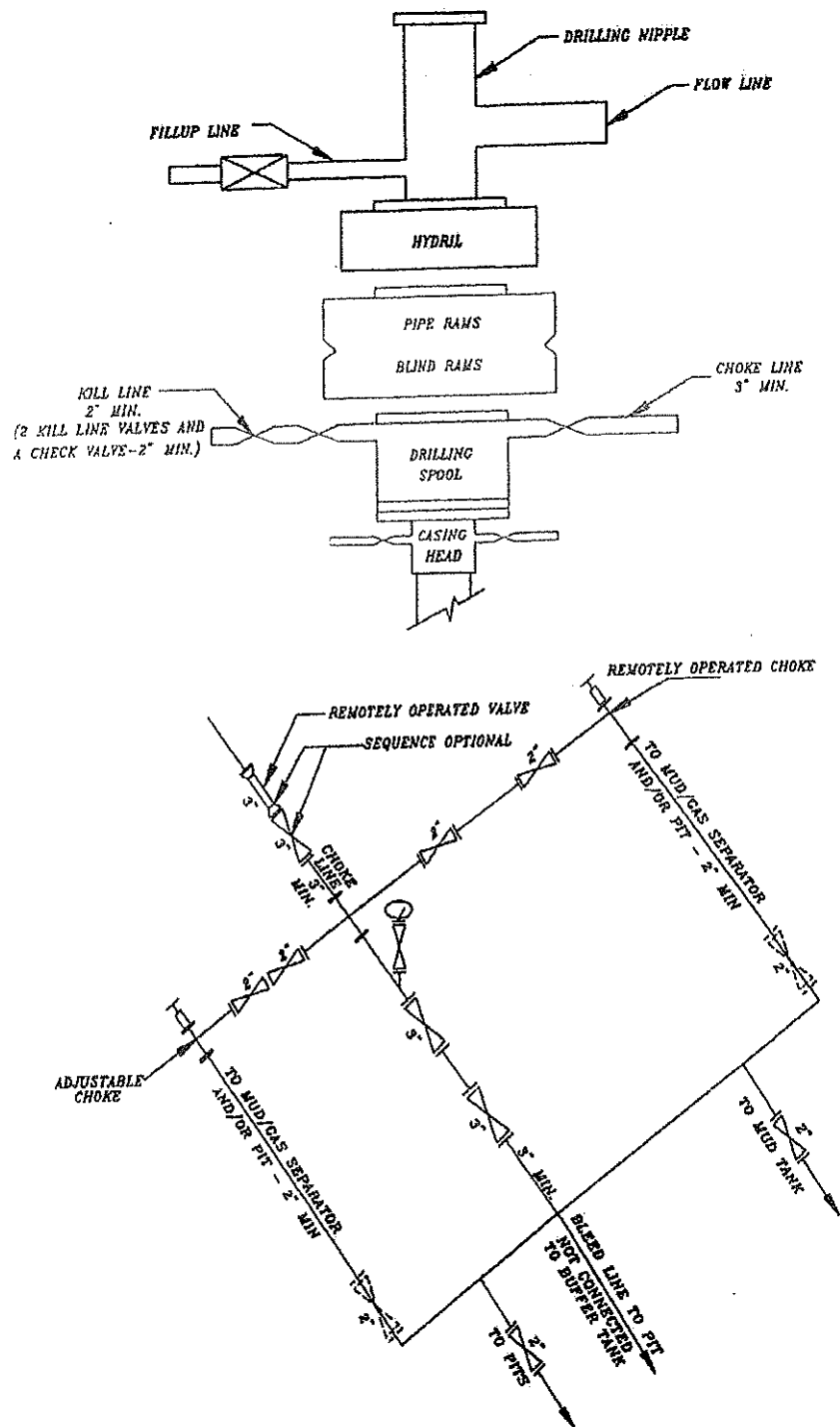
The air rig operating procedures and the attached air rig layout have effectively maintained well control while drilling the surface holes in KMG Fields. KMG respectfully requests a variance from Onshore Order 2 with respect to air drilling well control requirements as discussed above..

10. Other Information:

Please see Natural Buttes Unit SOP.

NBU 920-24B

EXHIBIT A

**SCHEMATIC DIAGRAM OF 5,000 PSI BOP STACK**

**NBU 920-24B
NWNE Sec. 24 ,T9S,R20E
UINTAH COUNTY, UTAH
UTU-0579**

ONSHORE ORDER NO. 1

MULTI-POINT SURFACE USE & OPERATIONS PLAN

1. Existing Roads:

Refer to the attached location directions.

Refer to Topo Maps A and B for location of access roads within a 2-mile radius.

2. Planned Access Roads:

Approximately 600' +/- of new access road is proposed. Refer to Topo Map B.

Existence of pipelines; maximum grade; turnouts; major cut and fills, culverts, or bridges; gates, cattle guards, fence cuts, or modifications to existing facilities were determined at the on-site.

Please see the Natural Buttes Unit Standard Operating Procedure (SOP).

3. Location of Existing Wells Within a 1-Mile Radius:

Please refer to Topo Map C.

4. Location of Existing & Proposed Facilities:

Please see the Natural Buttes Unit SOP.

Refer to Topo Map D for the location of the proposed pipelines.

A right-of-way is required for the pipeline. The pipeline is approximately 356' in length and 30' in width. A 4" surface steel pipeline will be constructed utilizing existing disturbance where possible. The pipeline will be butt-welded together and pulled into place with a rubber tired tractor.

Variances to Best Management Practices (BMPs) Requested:

Approximately 356' of 4" steel pipeline will be installed on surface within the access corridor for the well location. As a Best Management Practice (BMP), the pipeline would be buried within the access road corridor if possible. The construction of pipelines requires the corridor of 30 feet.

This exception to the BMP should be granted by the BLM Authorized Officer because indurated bedrock, such as sandstone, is at or within 2 feet of the surface and the soil has a poor history for successful rehabilitation.

All facilities will be painted within six months of installation. Facilities required to comply with the Occupational Safety and Health Act (OSHA) will be excluded. The requested color is Shadow gray (2.5Y 6/2), a non-reflective earthtone.

Interim Surface Reclamation Plan:

This exception is requested due to the current twin and multi-well program. If determined that this well will not be a candidate for either twinning &/or multi-well the operator shall spread the topsoil pile on the location up to the rig anchor points. The location will be reshaped to the original contour to the extent possible. The operator will reseed the area using the BLM recommended seed mixture and reclamation methods.

5. Location and Type of Water Supply:

Please see the Natural Buttes SOP.

6. Source of Construction Materials:

Please see the Natural Buttes SOP.

7. Methods of Handling Waste Materials:

Please see the Natural Buttes SOP.

A plastic reinforced liner is to be used as discussed during on-site inspection. It will be a minimum of 20 mil thick and felt, with sufficient bedding used to cover any rocks. The liner will overlap the pit walls and be covered with dirt and/or rocks to hold it in place. No trash or scrap that could puncture the liner will be disposed of in the pit.

Any produced water from the proposed well will be contained in a water tank and will then be hauled by truck to one of the pre-approved disposal sites: RNI, Sec. 5, T9S, R22E, NBU #159, Sec. 35, T9S R21E, Ace Oilfield, Sec. 2, T6S, R20E, MC&MC, Sec. 12, T6S, R19E, Pipeline Facility Sec. 36, T9S, R20E, Goat Pasture Evaporation Pond SW/4 Sec. 16, T10S, R22E, Bonanza Evaporation Pond Sec. 2, T10S, R23E (*Request is in lieu of filing Form 3160-5, after initial production*).

8. Ancillary Facilities:

Please see the Natural Buttes SOP.

9. **Well Site Layout:** (See Location Layout Diagram)

The attached Location Layout Diagram describes drill pad cross-sections, cuts and fills, and locations of the mud tanks, reserve pit, flare pit, pipe racks, trailer parking, spoil dirt stockpile(s), and surface material stockpile(s).

Please see the attached diagram to describe rig orientation, parking areas, and access roads.

Location size may change prior to the drilling of the well due to the current rig availability. If the proposed location is not large enough to accommodate the drilling rig. The location will be re-surveyed and a form 3160-5 will be submitted.

10. **Plans for Reclamation of the Surface:**

Please see the Natural Buttes SOP.

Upon reclamation of the pit the following seed mixture will be used. A total of 12 lbs/acre will be used if the seeds are drilled (24 lbs/acre if the seeds are broadcast). The per acre requirements for *drilled* seed are:

Crested Wheatgrass 12 lbs.

Operator shall call the BLM for the seed mixture when final reclamation occurs.

11. **Surface/Mineral Ownership:**

The well pad and access road are located on lands owned by:

Ute Indian Tribe
P.O. Box 70
Fort Duchesne, Utah 84026
(435) 722-5141

The mineral ownership is listed below:

United States of America
Bureau of Land Management
170 South 500 East
Vernal, UT 84078
(435)781-4400

12. Stipulations/Notices/Mitigation:

There are no stipulations or notices for this location.

13. Other Information:

A Class III archaeological survey has been performed and will be submitted. A paleontological survey is being submitted at this time. The Paleontology Report was conducted by Intermountain Paleo-Consulting on July 8, 2008 (Report IPC #08-152).

This location is not within 460' from the boundary of the Natural Buttes Unit, nor is it within 460' of any non-committed tract lying within the boundaries of the Unit.

14. Lessee's or Operator's Representative & Certification:

Kevin McIntyre
Regulatory Analyst
Kerr-McGee Oil & Gas Onshore LP
P.O. Box 173779
Denver, CO 80217-3779
(720) 929-6226

Randy Bayne
Drilling Manager
Kerr-McGee Oil & Gas Onshore LP
1368 South 1200 East
Vernal, UT 84078
(435) 781-7018

Certification: All lease and/or unit operations will be conducted in such a manner that full compliance is made with all applicable laws, regulations, Onshore Oil and Gas Orders, the approved Plan of Operations, and any applicable Notice to Lessees.

Kerr-McGee Oil & Gas Onshore LP is considered to be the operator of the subject well. Kerr-McGee Oil & Gas Onshore LP agrees to be responsible under the terms and conditions of the lease for the operations conducted upon leased lands.

The Operator will be fully responsible for the actions of its subcontractors. A complete copy of the approved "Application for Permit to Drill" will be furnished to the field representative(s) to ensure compliance and shall be on location during all construction and drilling operations.

Bond coverage pursuant to 43 CFR 3104 for lease activities is being provided by Bureau of Land Management Nationwide Bond #WYB000291.

I hereby certify that I, or persons under my supervision, have inspected the proposed drill site and access route, that I am familiar with the conditions that currently exist; that the statements made in this plan are, to the best of my knowledge, true and correct; and the work associated with the operations proposed herein will be performed by the Operator, its contractors, and subcontractors in conformity with this plan and the terms and conditions under which it is approved.


Kevin McIntyre

9/10/2008
Date

IPC #08-152

Paleontological Reconnaissance Survey Report

**Survey of Kerr McGee's Proposed Well Pads, Access Roads, and
Pipelines for "NBU #920-12LT, 12N, 13D, 13F, 13G, 13J,
24AT & 24B" (Sec. 12, 13 & 24, T 9 S, R 20 E)**

Ouray SE
Topographic Quadrangle
Uintah County, Utah

July 8, 2008

Prepared by Stephen D. Sandau
Paleontologist for
Intermountain Paleo-Consulting
P. O. Box 1125
Vernal, Utah 84078

INTRODUCTION

At the request of Raleen White of Kerr McGee Onshore LP and authorized by Bruce Pargeets of the Ute Indian Tribe and by Lynn Becker, EMD Land Division Manager of the Ute Indian Tribe's Energy and Minerals Department, a paleontological reconnaissance survey of Kerr McGee's proposed well pads, access roads, and pipelines for "NBU #920-12LT, 12N, 13D, 13F, 13G, 13J, 24AT & 24B" (Sec. 12, 13 & 24, T 9 S, R 20 E) was conducted by Stephen Sandau and Daniel Burk on July 1, 2008. The survey was conducted under the Ute Indian Tribe Business License FY 2008, #A08-1308 and the accompanying Access Permit (effective 3/26/2008 through 9/30/2008). This survey to locate, identify, and evaluate paleontological resources was done to meet requirements of the National Environmental Policy Act of 1969 and other State and Federal laws and regulations that protect paleontological resources.

FEDERAL AND STATE REQUIREMENTS

As mandated by the Federal and State government, paleontologically sensitive geologic formations on State lands that are considered for exchange or may be impacted due to ground disturbance require paleontological evaluation. This requirement complies with:

- 1) The National Environmental Policy Act of 1969 (NEPA) (42 U.S.C. 4321 et. Seq., P.L. 91-190);
- 2) The Federal Land Policy and Management Act (FLPMA) of 1976 (90 Stat. 2743, 43 U.S.C. § 1701-1785, et. Seq., P.L. 94-579) and
- 3) The National Historic Preservation Act. 16 U.S.C. § 470-1, P.L. 102-575 in conjunction with 42 U.S.C. § 5320

The new Potential Fossil Yield Classification (PFYC) System (October, 2007) replaces the Condition Classification System from Handbook H-8270-1. Geologic units are classified based on the relative abundance of vertebrate fossils or scientifically significant invertebrate or plant fossils and their sensitivity to adverse impacts, with a higher class number indicating a higher potential.

- **Class 1 – Very Low.** Geologic units (igneous, metamorphic, or Precambrian) not likely to contain recognizable fossil remains.
- **Class 2 – Low.** Sedimentary geologic units not likely to contain vertebrate fossils or scientifically significant non-vertebrate fossils. (Including modern eolian, fluvial, and colluvial deposits etc...)
- **Class 3 – Moderate or Unknown.** Fossiliferous sedimentary geologic units where fossil content varies in significance, abundance, and predictable occurrence; or sedimentary units of unknown fossil potential.
 - **Class 3a – Moderate Potential.** The potential for a project to be sited on or impact a significant fossil locality is low, but is somewhat higher for common fossils.
 - **Class 3b – Unknown Potential.** Units exhibit geologic features and preservational conditions that suggest significant fossils could be present, but little information about the paleontological resources of the unit or the area is known.

- **Class 4 – High.** Geologic units containing a high occurrence of vertebrate fossils or scientifically significant invertebrate or plant fossils, but may vary in abundance and predictability.
 - **Class 4a** – Outcrop areas with high potential are extensive (greater than two acres) and paleontological resources may be susceptible to adverse impacts from surface disturbing actions.
 - **Class 4b** – Areas underlain by geologic units with high potential but have lowered risks of disturbance due to moderating circumstances such as a protective layer of soil or alluvial material; or outcrop areas are smaller than two contiguous acres.
- **Class 5 – Very High.** Highly fossiliferous geologic units that consistently and predictably produce vertebrate fossils or scientifically significant invertebrate or plant fossils.
 - **Class 5a** - Outcrop areas with very high potential are extensive (greater than two acres) and paleontological resources may be susceptible to adverse impacts from surface disturbing actions.
 - **Class 5b** - Areas underlain by geologic units with very high potential but have lowered risks of disturbance due to moderating circumstances such as a protective layer of soil or alluvial material; or outcrop areas are smaller than two contiguous acres.

It should be noted that many fossils, though common and unimpressive in and of themselves, can be important paleo-environmental, depositional, and chronostratigraphic indicators.

LOCATION

Kerr McGee's proposed well pads, access roads, and pipelines for "NBU #920-12LT, 12N, 13D, 13F, 13G, 13J, 24AT & 24B" (Sec. 12, 13 & 24, T 9 S, R 20 E) are located on Ute Indian Reservation land some 2.5 miles south of the White River and 5 miles southeast of Ouray, Utah. The project area can be found on the Ouray SE 7.5 minute U. S. Geological Survey Quadrangle Map, Uintah County, Utah.

PREVIOUS WORK

The basins of western North America have long produced some of the richest fossil collections in the world. Early Cenozoic sediments are especially well represented throughout the western interior. Paleontologists started field work in Utah's Uinta Basin as early as 1870 (Betts, 1871; Marsh, 1871, 1875a, 1875b). The Uinta Basin is located in the northeastern corner of Utah and covers approximately 31,000 sq. km (12,000 sq. miles) ranging in elevation from 1,465 to 2,130 m (4,800 to 7,000 ft) (Marsell, 1964; Hamblin et al., 1987). Middle to late Eocene time marked a period of dramatic change in the climate, flora, (Stucky, 1992) and fauna (Black and Dawson, 1966) of North America.

GEOLOGICAL AND PALEONTOLOGICAL OVERVIEW

Early in the geologic history of Utah, some 1,000 to 600 Ma, an east-west trending basin developed creating accommodation for 25,000 feet of siliclastics. Uplift of that filled-basin during the early Cenozoic formed the Uinta Mountains (Rasmussen et al., 1999). With the rise of the Uinta Mountains the asymmetrical synclinal Uinta Basin is thought to have formed through the effects of down warping in connection with the uplift. Throughout the Paleozoic and Mesozoic deposition fluctuated between marine and non-marine environments laying down a thick succession of sediments in the area now occupied by the Uinta Basin. Portions of these beds crop out on the margins of the basin due to tectonic events during the late Mesozoic.

Early Tertiary Uinta Basin sediments were deposited in alternating lacustrine and fluvial environments. Large shallow lakes periodically covered most of the basin and surrounding areas during early to mid Eocene time (Abbott, 1957). These lacustrine sediments show up in the western part of the basin, dipping 2-3 degrees to the northeast and are lost in the subsurface on the east side. The increase of cross-bedded, coarse-grained sandstone and conglomerates preserved in paleo-channels indicates a transition to a fluvial environment toward the end of the epoch.

Four Eocene formations are recognized in the Uinta Basin: the Wasatch, Green River, Uinta and Duchesne River, respectively (Wood, 1941). The Uinta Formation is subdivided into two lithostratigraphic units namely: the Wagonhound Member (Wood, 1934), formerly known as Uinta A and B (Osborn, 1895, 1929) and the Myton Member previously regarded as the Uinta C.

Within the Uinta Basin in northeast Utah, the Uinta Formation in the western part of the basin is composed primarily of lacustrine sediments inter-fingering with over-bank deposits of silt, and mudstone and westward flowing channel sands and fluvial clays, muds, and sands in the east (Bryant et al, 1990; Ryder et al, 1976). Stratigraphic work done by early geologists and paleontologists within the Uinta Formation focused on the definition of rock units and attempted to define a distinction between early and late Uintan faunas (Riggs, 1912; Peterson and Kay, 1931; Kay 1934). More recent work focused on magnetostratigraphy, radioscopic chronology, and continental biostratigraphy (Flynn, 1986; Prothero, 1996). Well-known for its fossiliferous nature and distinctive mammalian fauna of mid-Eocene Age, the Uinta Formation is the type formation for the Uintan Land Mammal Age (Wood et al, 1941).

The Duchesne River Formation of the Uinta Basin in northeastern Utah is composed of a succession of fluvial and flood plain deposits composed of mud, silt, and sandstone. The source area for these late Eocene deposits is from the Uinta Mountains indicated by paleocurrent data (Anderson and Picard, 1972). In Peterson's (1931c) paper, the name "Duchesne Formation" was applied to the formation and it was later changed to the "Duchesne River Formation" by Kay (1934). The formation is divided up into four members: the Brennan Basin, Dry Gulch Creek, LaPoint, and Starr Flat (Anderson and Picard, 1972). Debates concerning the Duchesne River Formation, as to whether its age was late Eocene or early Oligocene, have surfaced throughout the literature of the last century (Wood et al., 1941; Scott 1945). Recent paleo-magnetostratigraphic work (Prothero, 1996) shows that the Duchesne River Formation is late Eocene in time.

FIELD METHODS

In order to determine if the proposed project area contained any paleontological resources, a reconnaissance survey was performed. An on-site observation of the proposed areas undergoing surficial disturbance is necessary because judgments made from topographic maps alone are often unreliable. Areas of low relief have potential to be erosional surfaces with the possibility of bearing fossil materials rather than surfaces covered by unconsolidated sediment or soils.

When found within the proposed construction areas, outcrops and erosional surfaces were checked to determine if fossils were present and to assess needs. Careful effort is made during surveys to identify and evaluate significant fossil materials or fossil horizons when they are found. Microvertebrates, although rare, are occasionally found in anthills or upon erosional surfaces and are of particular importance.

PROJECT AREA

The project area is situated in the Wagonhound Member (Uinta A & B) of the Uinta Formation. The following list provides a description of the individual wells and their associated pipelines and access roads.

NBU #920-12LT

The proposed twin is located on the pad of existing well "NBU #920-12L" in the NW/SW quarter-quarter section of Sec. 12, T 9 S, R 20 E (Figure 1). The proposed twin is located among hills with outcrops of inter-bedded sand and siltstones. The sandstones are tan and maroon, fine to medium-grained, and 3 to 4 meters thick. The siltstones are green and purple and 2 to 3 meters thick. No fossils were found.

NBU #920-12N

The proposed pipeline and access road begin at existing well "NBU #920-12L" in the NW/SW quarter-quarter section of Sec. 12, T 9 S, R 20 E, then travel southeast for approximately 0.2 miles where they enter the proposed well pad in the SE/SW quarter-quarter section of Sec. 12, T 9 S, R 20 E (Figure 1). The proposed pipeline, access road, and well pad are located on muddy colluvium among hills with outcrops of inter-bedded sand and siltstones. The sandstones are tan and maroon, fine to medium-grained, and 3 to 4 meters thick. The siltstones are green and purple and 2 to 3 meters thick. Scattered, unidentifiable bone fragments and turtle shell fragments were found weathering out of the outcrops directly to the east of the staked area, but no other fossils were found.

NBU #920-13D

The proposed pipeline and access road begin near the proposed well "NBU #920-12N" in the SW/SW quarter-quarter section of Sec. 12, T 9 S, R 20 E and travel southwest for approximately 0.3 miles where they enter the proposed well pad in the NW/NW quarter-quarter section of Sec. 13, T 9 S, R 20 E (Figure 1). The proposed pipeline, access road, and well pad are located on hills with outcrops of inter-bedded sand and siltstones. The sandstones are tan and maroon, fine

to medium-grained, and 1 to 2 meters thick. The siltstones are green and purple and 3 to 4 meters thick. Scattered, isolated turtle shell fragments were found on the well pad. Very dense concentrations of turtle shell and limb fragments (*Echmatemys sp.?*) were found just to the north of the proposed access road weathering out of green siltstone.

NBU #920-13F

The proposed access road begins at an existing road in the SE/NE quarter-quarter section of Sec. 13, T 9 S, R 20 E and travels west approximately 0.1 miles. The proposed pipeline begins here and travels with the access road west approximately 0.4 miles where they enter the well pad in the NE/NW quarter-quarter section of Sec. 13, T 9 S, R 20 E (Figure 1). The proposed pipeline, access road, and well pad are located among rolling hills with outcrops of gray-green and tan sandstone. Dense concentrations of weathered turtle shell fragments were found all along the staked access road, especially where the road crosses sandstone outcrops.

NBU #920-13G

The proposed pipeline and access road begin at the proposed access road for "NBU #920-13F" and travel south >0.1 miles where they enter the proposed well pad in the SW/NE quarter-quarter section of Sec. 13, T 9 S, R 20 E (Figure 1). The proposed pipeline, access road, and well pad are located on rolling hills of sandy colluvium derived from underlying sandstone. A few small, tan, sandstone outcrops are located within the staked area. Scattered turtle shell fragments were found on the proposed well pad.

NBU #920-13J

The proposed access road begins at an existing road in the NW/NE quarter-quarter section of Sec. 24, T 9 S, R 20 E and travels in a generally northward direction for approximately 0.8 miles where it meets the proposed pipeline tie-in. Together the proposed access road and pipeline travel north for >0.1 miles where they enter the proposed well pad in the NW/SE quarter-quarter section of Sec. 13, T 9 S, R 20 E (Figure 1). The proposed pipeline, access road, and well pad are located among hills with outcrops of inter-bedded sand and siltstones. The sandstones are tan and maroon, fine to medium-grained, and 3 to 4 meters thick. The siltstones are green and purple and 2 to 3 meters thick. The proposed access road is located on an abandoned access road for the first 0.5 miles. Scattered turtle shell fragments were found all along the staked area with greater concentrations on the actual outcrops.

NBU #920-24AT

The proposed access road begins at the proposed road for "NBU #920-13J" and travels east >0.1 miles to the well pad in the NE/NE quarter-quarter section of Sec. 24, T 9 S, R 20 E (Figure 1). The proposed pipeline begins near the proposed well pad "NBU #920-24B" in the NW/NE quarter-quarter section of Sec. 24, T 9 S, R 20 E and travels in a generally eastern direction approximately 0.4 miles where it enters the well pad in the NE/NE quarter-quarter section of Sec. 24, T 9 S, R 20 E. The proposed pipeline, access road, and well pad are located among hills with outcrops of inter-bedded sand and siltstones. The sandstones are tan and maroon, fine to medium-grained, and 3 to 4 meters thick. The siltstones are green and purple and 2 to 3 meters thick. Scattered turtle shell fragments were found on the well pad.

NBU #920-24B

The proposed access road begins along the proposed access road for "NBU #920-13J" in the SW/SE quarter-quarter section of Sec. 13, T 9 S, R 20 E and travels SW approximately 0.2 miles to where it is joined by the proposed pipeline (Figure 1). The proposed access road and pipeline then travel southwest together for >0.1 miles where they enter the proposed well pad in the NW/NE quarter-quarter section of Sec. 24, T 9 S, R 20 E. The proposed pipeline, access road, and well pad are located among hills with outcrops of inter-bedded sand and siltstones. The sandstones are tan and maroon, fine to medium-grained, and 3 to 4 meters thick. The siltstones are green and purple and 2 to 3 meters thick. The proposed access road crosses a significant drainage near its start. Scattered turtle shell fragments were found over a wide area on the well pad.

SURVEY RESULTS

PROJECT	GEOLOGY	PALEONTOLOGY
"NBU #920-12LT" (Sec. 12, T 9 S, R 20 E)	The proposed twin is located among hills with outcrops of inter-bedded sand and siltstones. The sandstones are tan and maroon, fine to medium-grained, and 3 to 4 meters thick. The siltstones are green and purple and 2 to 3 meters thick.	No fossils were found. Class 3a
"NBU #920-12N" (Sec. 12, T 9 S, R 20 E)	The proposed pipeline, access road, and well pad are located on muddy colluvium among hills with outcrops of inter-bedded sand and siltstones. The sandstones are tan and maroon, fine to medium-grained, and 3 to 4 meters thick. The siltstones are green and purple and 2 to 3 meters thick.	Scattered, unidentifiable bone fragments and turtle shell fragments were found weathering out of the outcrops directly to the east of the staked area, but no other fossils were found. Class 3a
"NBU #920-13D" (Sec. 12 & 13, T 9 S, R 20 E)	The proposed pipeline, access road, and well pad are located on hills with outcrops of inter-bedded sand and siltstones. The sandstones are tan and maroon, fine to medium grained, and 1 to 2 meters thick. The siltstones are green and purple and 3-4 meters thick.	Scattered and isolated turtle shell fragments were found on the well pad. Very dense concentrations of turtle shell and limb fragments (<i>Echmatemys sp.?</i>) were found just to the north of the proposed access road weathering out of green siltstone. Class 4a
"NBU #920-13F" (Sec. 13, T 9 S, R 20 E)	The proposed pipeline, access road, and well pad are located among rolling hills with outcrops of gray-green and tan sandstone.	Dense concentrations of weathered turtle shell fragments were found all along the staked access road especially where the road crosses sandstone outcrops. Class 4a

<p>“NBU #920-13G” (Sec. 13, T 9 S, R 20 E)</p>	<p>The proposed pipeline, access road, and well pad are located on rolling hills of sandy colluvium derived from underlying sandstone. A few small tan sandstone outcrops are located within the staked area.</p>	<p>Scattered turtle shell fragments were found on the proposed well pad. Class 4b</p>
<p>“NBU #920-13J” (Sec. 13, T 9 S, R 20 E)</p>	<p>The proposed pipeline, access road, and well pad are located among hills with outcrops of inter-bedded sand and siltstones. The sandstones are tan and maroon, fine to medium grained, and 3 to 4 meters thick. The siltstones are green and purple and 2 to 3 meters thick. The proposed access road is located on an abandoned access road for the first 0.5 miles.</p>	<p>Scattered turtle shell fragments were found all along the staked area with greater concentrations on the actual outcrops. Class 4a</p>
<p>“NBU #920-24AT” (Sec. 24, T 9 S, R 20 E)</p>	<p>The proposed pipeline, access road, and well pad are located among hills with outcrops of inter-bedded sand and siltstones. The sandstones are tan and maroon, fine to medium-grained, and 3 to 4 meters thick. The siltstones are green and purple and 2 to 3 meters thick.</p>	<p>Scattered turtle shell fragments were found on the well pad. Class 3a</p>
<p>“NBU #920-24B” (Sec. 24, T 9 S, R 20 E)</p>	<p>The proposed pipeline, access road, and well pad are located among hills with outcrops of inter-bedded sand and siltstones. The sandstones are tan and maroon, fine to medium-grained, and 3 to 4 meters thick. The siltstones are green and purple and 2 to 3 meters thick. The proposed access road crosses a significant drainage near its start.</p>	<p>Scattered turtle shell fragments were found over a wide area on the well pad. Class 3a</p>

RECOMMENDATIONS

A reconnaissance survey was conducted for Kerr McGee's proposed well pads, access roads, and pipelines for "NBU #920-12LT, 12N, 13D, 13F, 13G, 13J, 24AT & 24B" (Sec. 12, 13 & 24, T 9 S, R 20 E). The proposed well pads and the associated access roads and pipelines covered in this report showed some signs of vertebrate fossils, therefore, we advise the following recommendations.

We recommend that due to the number of vertebrate fossils found, that the proposed access roads, pipelines and well pads for "NBU #920-13D" and "NBU #920-13F" be monitored during the construction process.

We recommend that no other paleontological restrictions should be placed on the development of the remainder of the projects included in this report.

Nevertheless, if any vertebrate fossil(s) are found during construction within the project area, recommendations are that a paleontologist is immediately notified in order to collect fossil materials in danger of being destroyed. Any vertebrate fossils found should be carefully moved outside of the construction areas to be check by a permitted paleontologist.

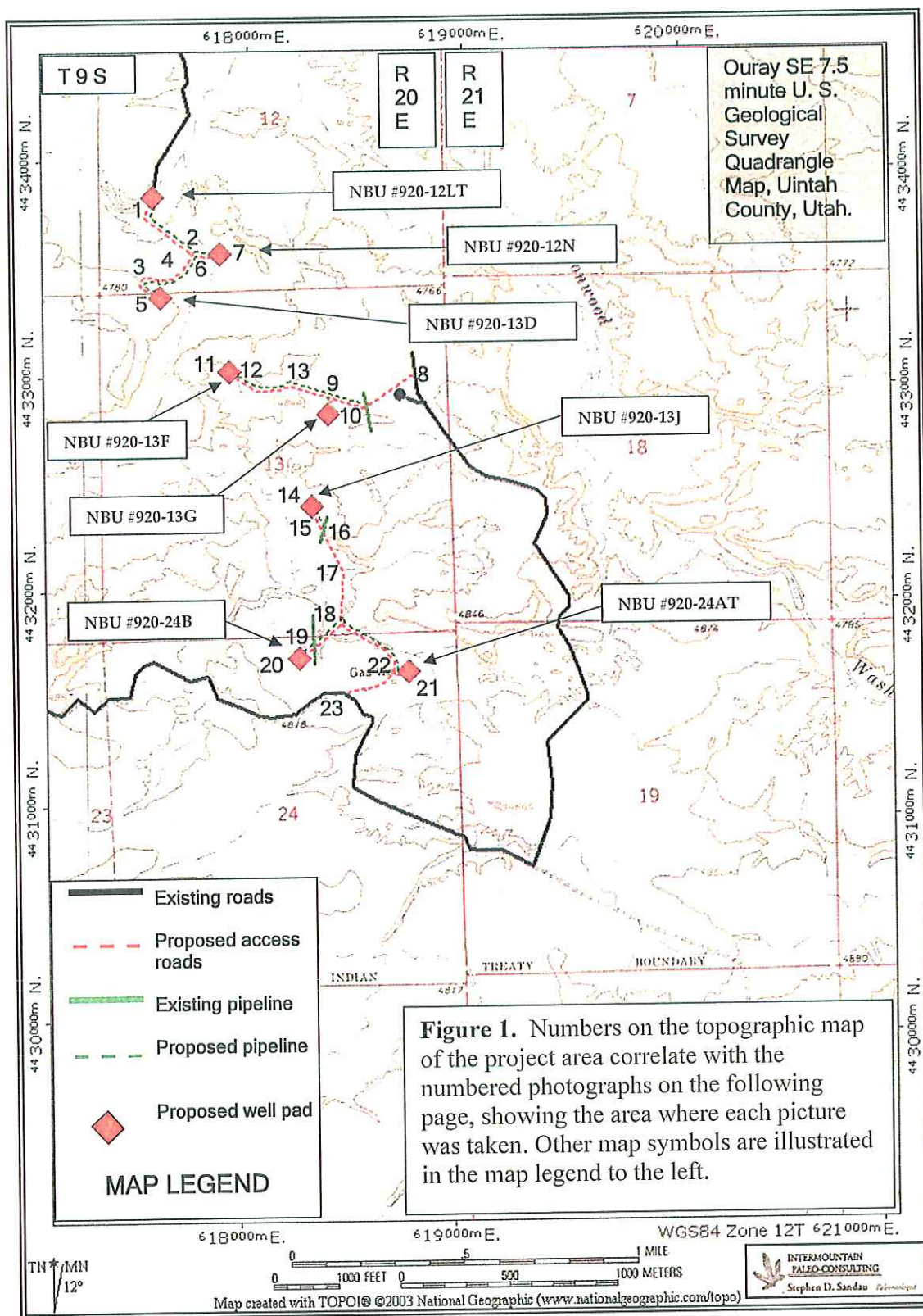


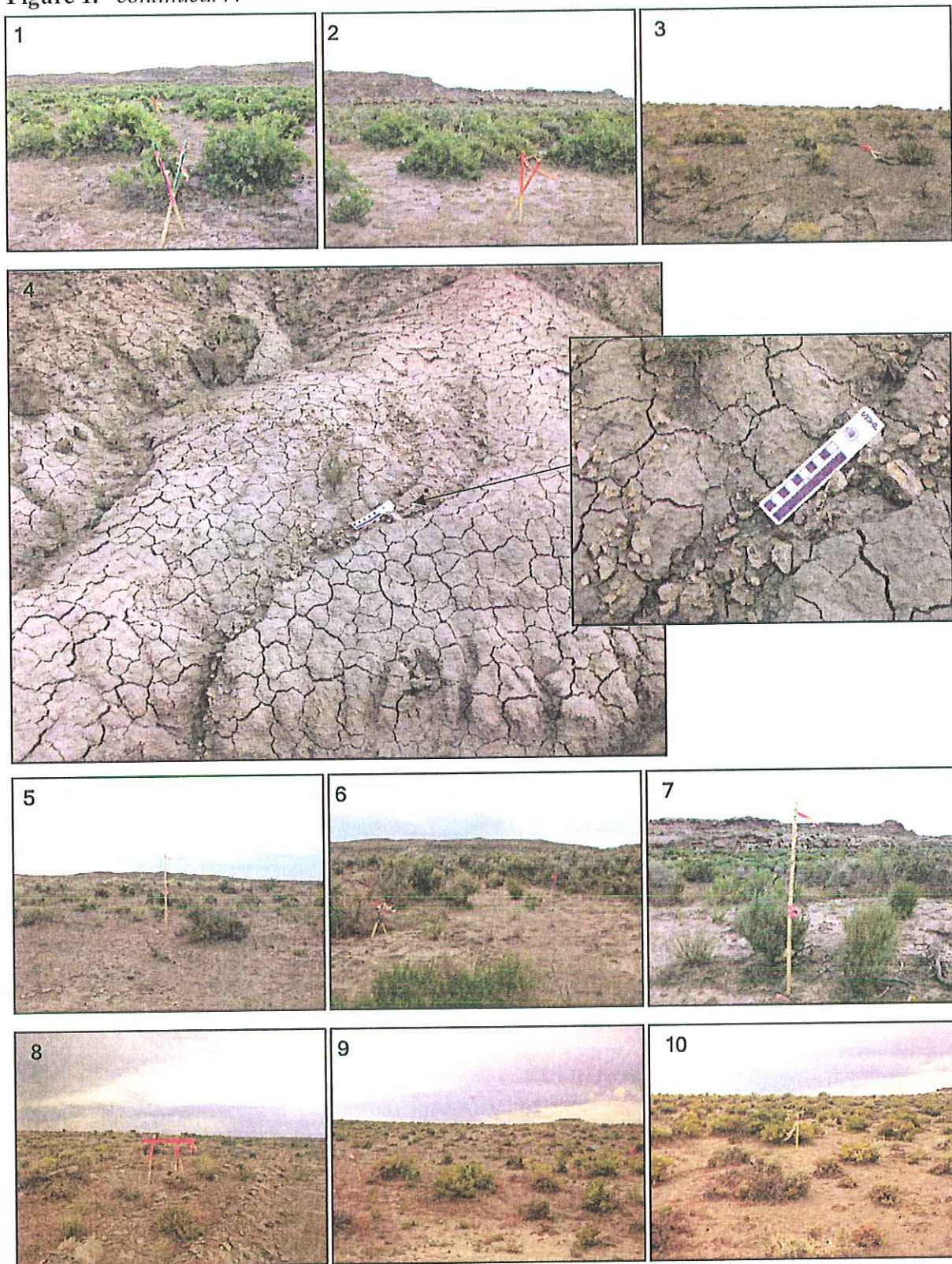
Figure 1. *continued. . .*

Figure 1. *continued.* . .

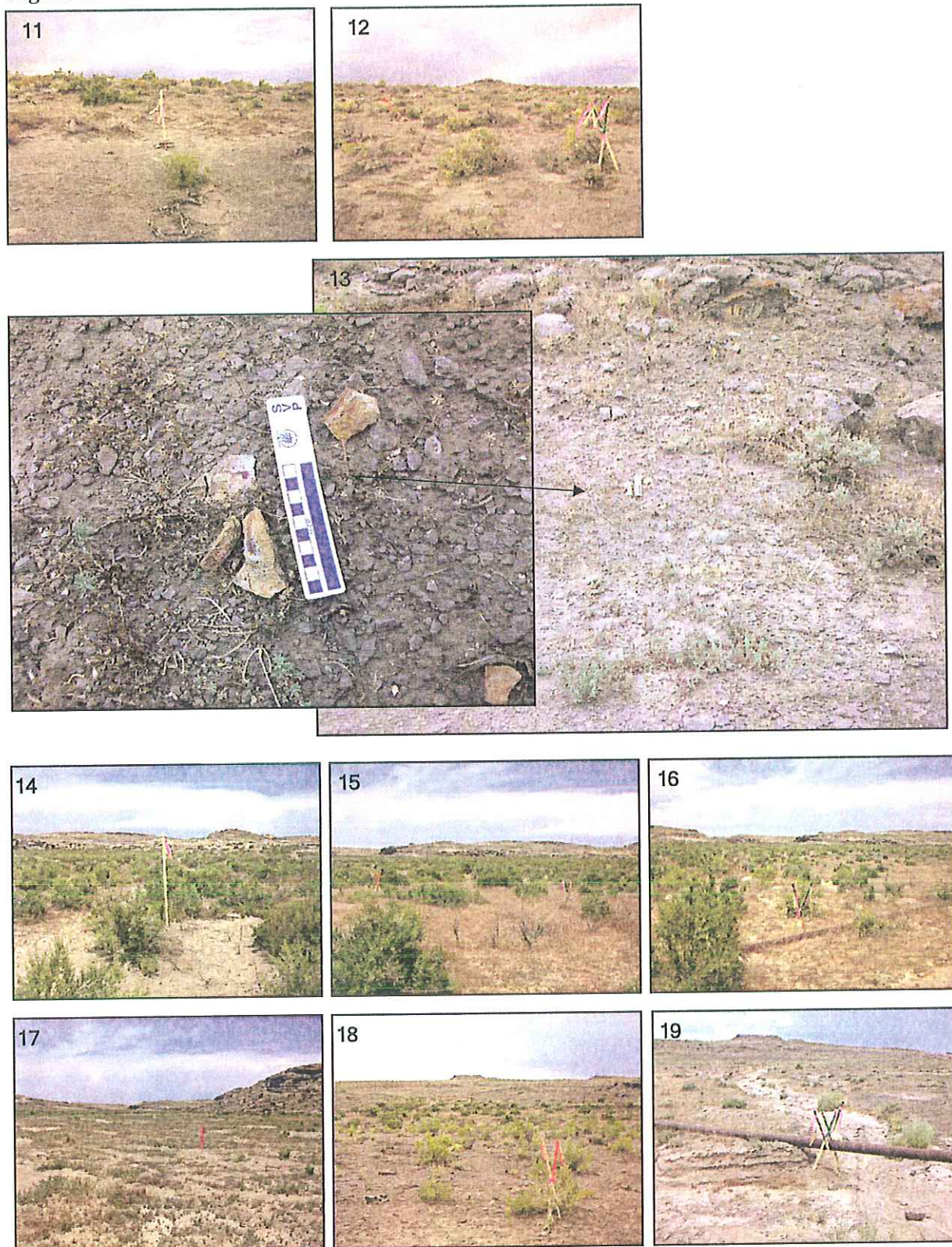
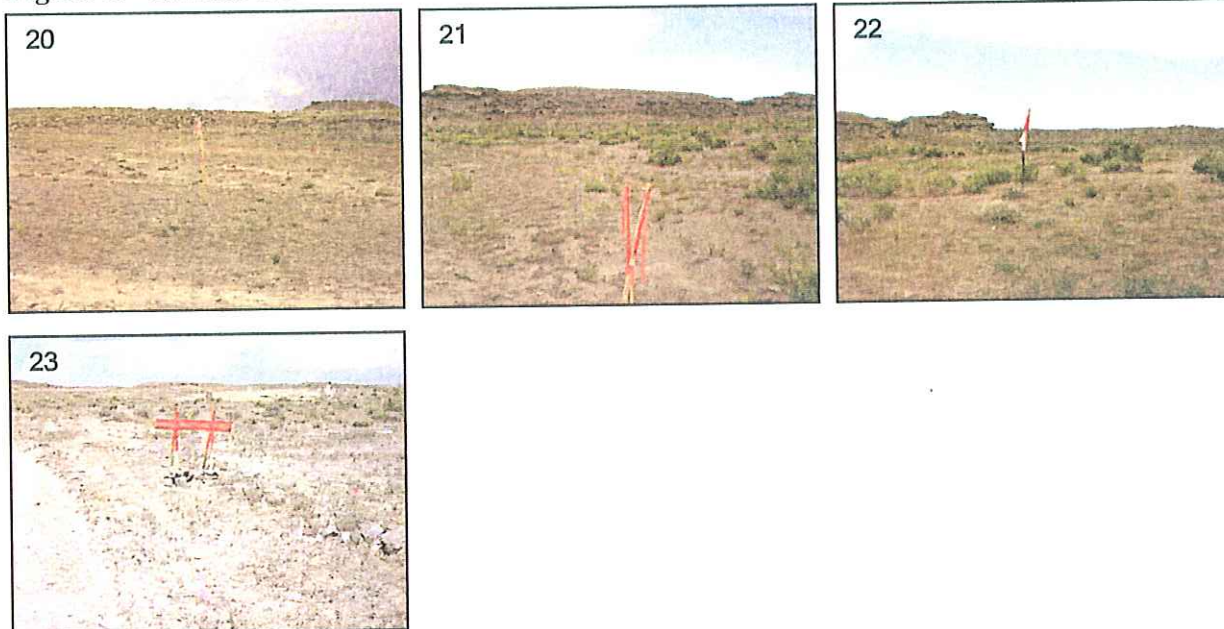


Figure 1. *continued.* . .



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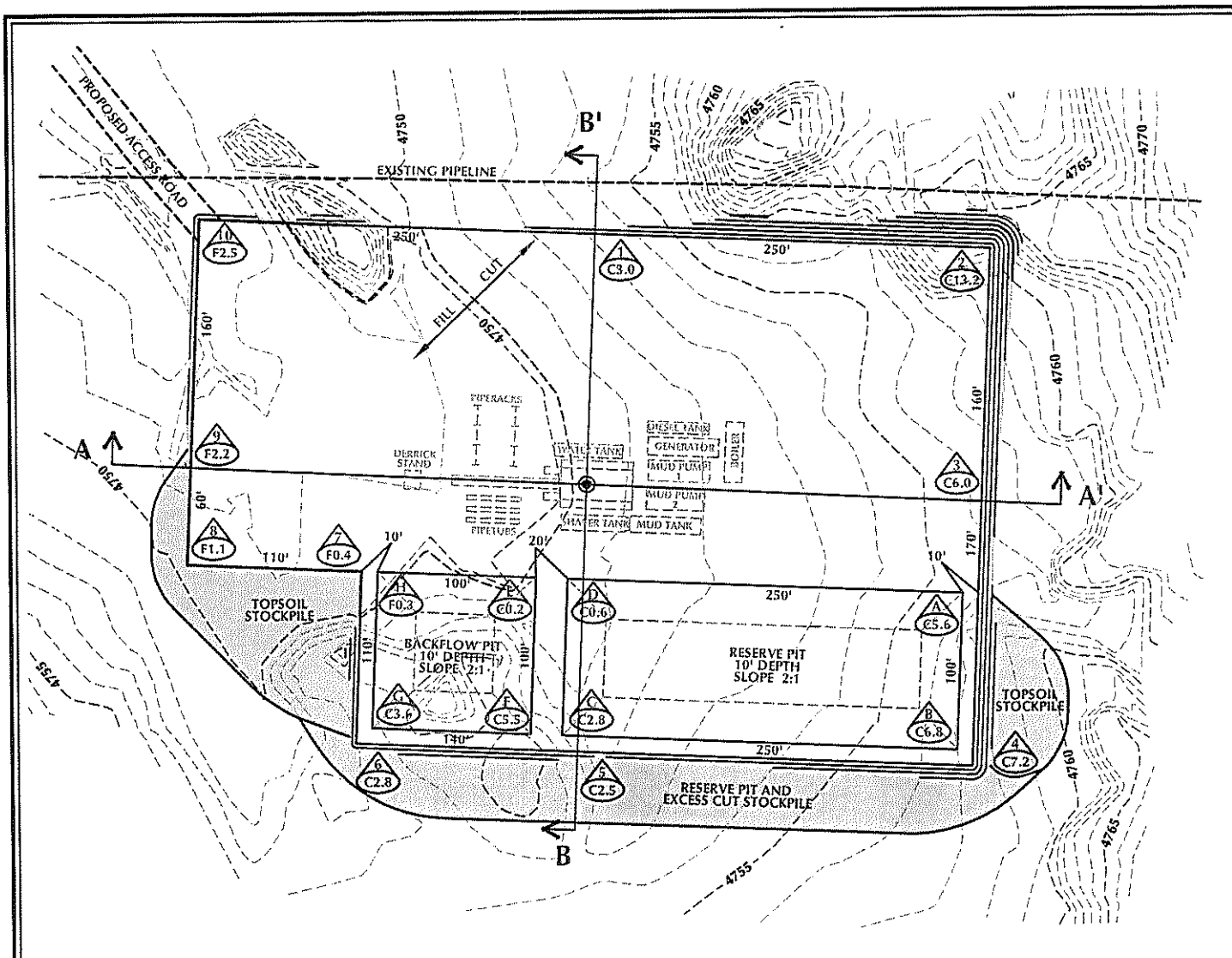
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Kerr-McGee Oil & Gas Onshore, LP
NBU 920-24B
Section 24, T9S, R20E, S.L.B.&M.

PROCEED IN A WESTERLY DIRECTION FROM VERNAL, UTAH ALONG U.S. HIGHWAY 40 APPROXIMATELY 13.9 MILES TO THE JUNCTION OF STATE HIGHWAY 88. EXIT LEFT AND PROCEED IN A SOUTHERLY DIRECTION ALONG STATE HIGHWAY 88 APPROXIMATELY 16.8 MILES TO OURAY, UTAH. FROM OURAY, PROCEED IN A SOUTHERLY DIRECTION ALONG THE SEEP RIDGE ROAD (COUNTY B ROAD 2810) APPROXIMATELY 5.3 MILES TO THE INTERSECTION OF AN EXISTING ROAD TO THE EAST. EXIT LEFT AND PROCEED IN A NORTHEASTERLY DIRECTION ALONG EXISTING ROAD APPROXIMATELY 3.6 MILES TO THE PROPOSED ACCESS ROAD FOR NBU 920-13J. FOLLOW 920-13J ROAD FLAGS IN A NORTHEASTERLY THEN NORTHWESTERLY DIRECTION APPROXIMATELY 2,040 FEET TO THE PROPOSED ACCESS ROAD. FOLLOW ROAD FLAGS IN A SOUTHWESTERLY DIRECTION APPROXIMATELY 600 FEET TO THE PROPOSED LOCATION.

TOTAL DISTANCE FROM VERNAL, UTAH TO THE PROPOSED WELL LOCATION IS APPROXIMATELY 40.1 MILES IN A SOUTHERLY DIRECTION.

DATE SURVEYED: 08-01-08	SURVEYED BY: M.S.B.	SHEET 1 OF 9
DATE DRAWN: 08-04-08	DRAWN BY: B.R.B.	
SCALE: 1" = 1000'	Date Last Revised:	



WELL PAD LEGEND

- WELL LOCATION
- EXISTING CONTOURS (1' INTERVAL)
- PROPOSED CONTOURS (1' INTERVAL)

WELL PAD NBU 920-24B QUANTITIES

EXISTING GRADE @ LOC. STAKE = 4,750.6'
 FINISHED GRADE ELEVATION = 4,750.2'
 CUT SLOPES = 1.5:1
 FILL SLOPES = 1.5:1

TOTAL CUT FOR WELL PAD = 12,561 C.Y.
 TOTAL FILL FOR WELL PAD = 3,179 C.Y.
 TOPSOIL @ 6" DEPTH = 3,055 C.Y.
 TOTAL DISTURBANCE = 3.79 ACRES
 SHRINKAGE FACTOR = 1.15
 SWELL FACTOR = 1.00
 RESERVE PIT CAPACITY (2' OF FREEBOARD)
 +/- 25,880 BARRELS
 RESERVE PIT VOLUME
 +/- 7,185 CY
 BACKFLOW PIT CAPACITY (2' OF FREEBOARD)
 +/- 8,780 BARRELS
 BACKFLOW PIT VOLUME
 +/- 2,520 CY

**KERR-MCGEE OIL & GAS
 ONSHORE L.P.**

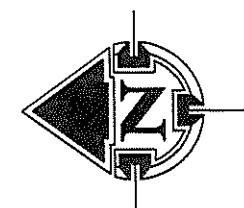
1099 18th Street - Denver, Colorado 80202



CONSULTING, LLC
 371 Coffeen Avenue
 Sheridan WY 82801
 Phone 307-674-0609
 Fax 307-674-0182

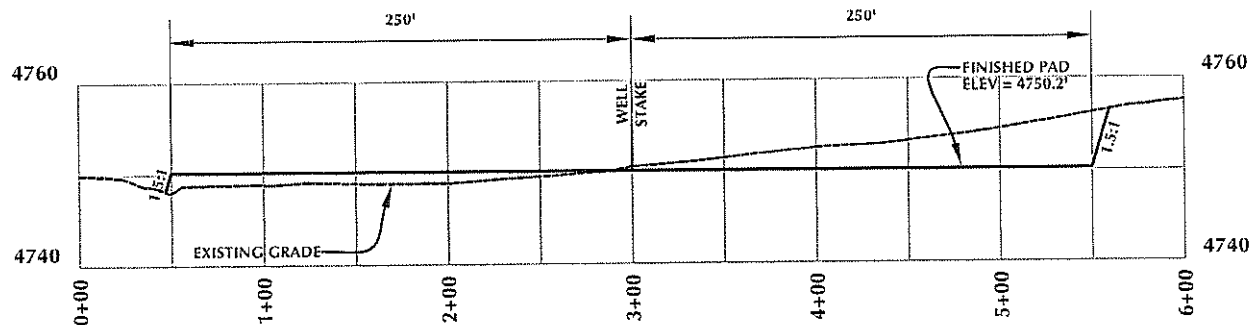
**NBU 920-24B
 WELL PAD - LOCATION LAYOUT**
 473' FNL, 2377' FEL
 NW1/4NE1/4, SECTION 24, T.9S., R.20E.
 S.L.B.&M., UTAH COUNTY, UTAH

Scale: 1"=100'	Date: 8/18/08	SHEET NO:
REVISED:	BY DATE	2 2 OF 9

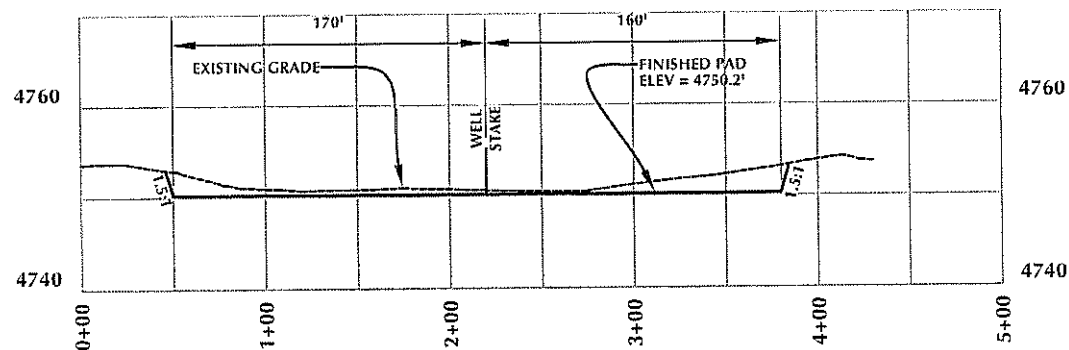


HORIZONTAL 0 50 100
 1" = 100'
 1' CONTOURS

Timberline (435) 789-1365
Engineering & Land Surveying, Inc.
 38 WEST 100 NORTH VERNAL, UTAH 84078



CROSS SECTION A-A'



CROSS SECTION B-B'

**KERR-MCGEE OIL & GAS
ONSHORE L.P.**
1099 18th Street - Denver, Colorado 80202

**NBU 920-24B
WELL PAD - CROSS SECTIONS**
473' FNL, 2377' FEL
NW1/4NE1/4, SECTION 24, T.9S., R.20E.
S.L.B.&M., UINTAH COUNTY, UTAH



CONSULTING, LLC
371 Coffeen Avenue
Sheridan WY 82801
Phone 307-674-0609
Fax 307-674-0182

Scale: 1"=100'	Date: 8/18/08	SHEET NO:
REVISED:	BY DATE	3 3 OF 9



HORIZONTAL 0 50 100 1" = 100'
VERTICAL 0 10 20 1" = 20'

Timberline (435) 789-1365
Engineering & Land Surveying, Inc.
38 WEST 100 NORTH VERNAL, UTAH 84078

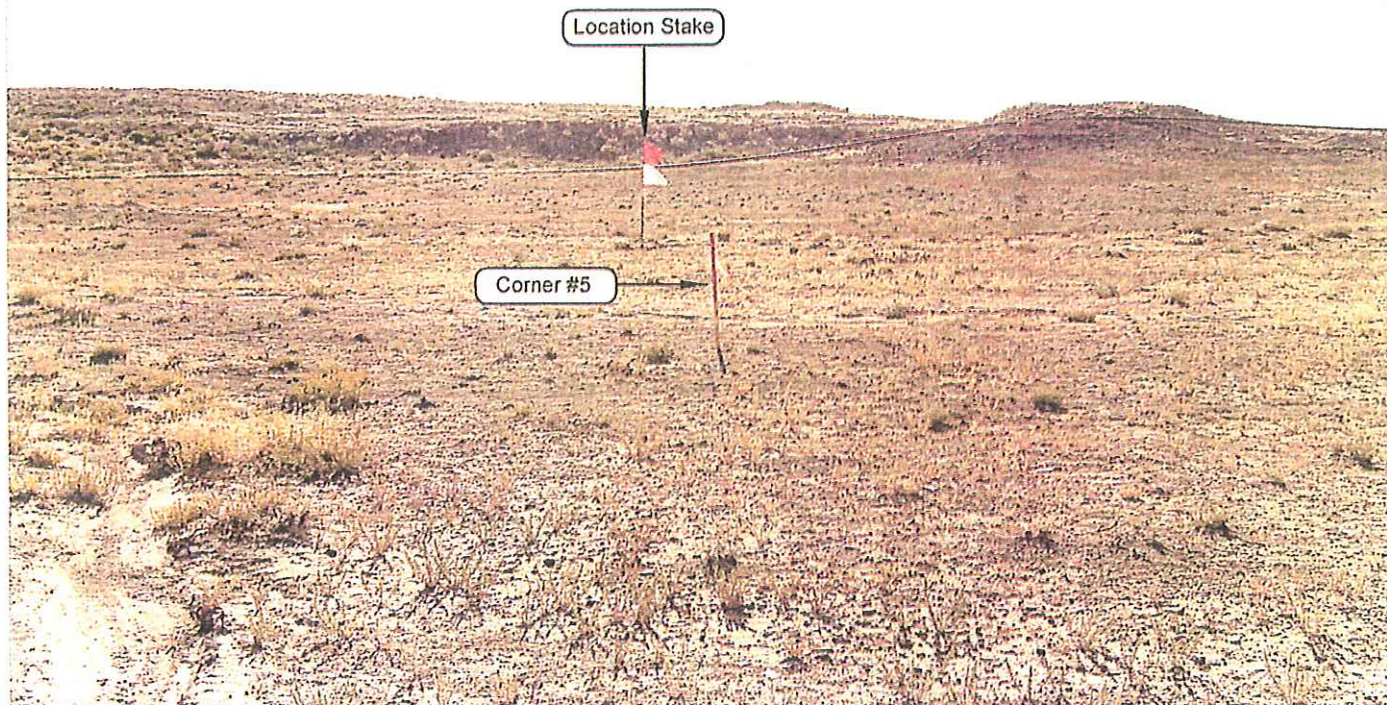


PHOTO VIEW: FROM CORNER #5 TO LOCATION STAKE

CAMERA ANGLE: EASTERLY

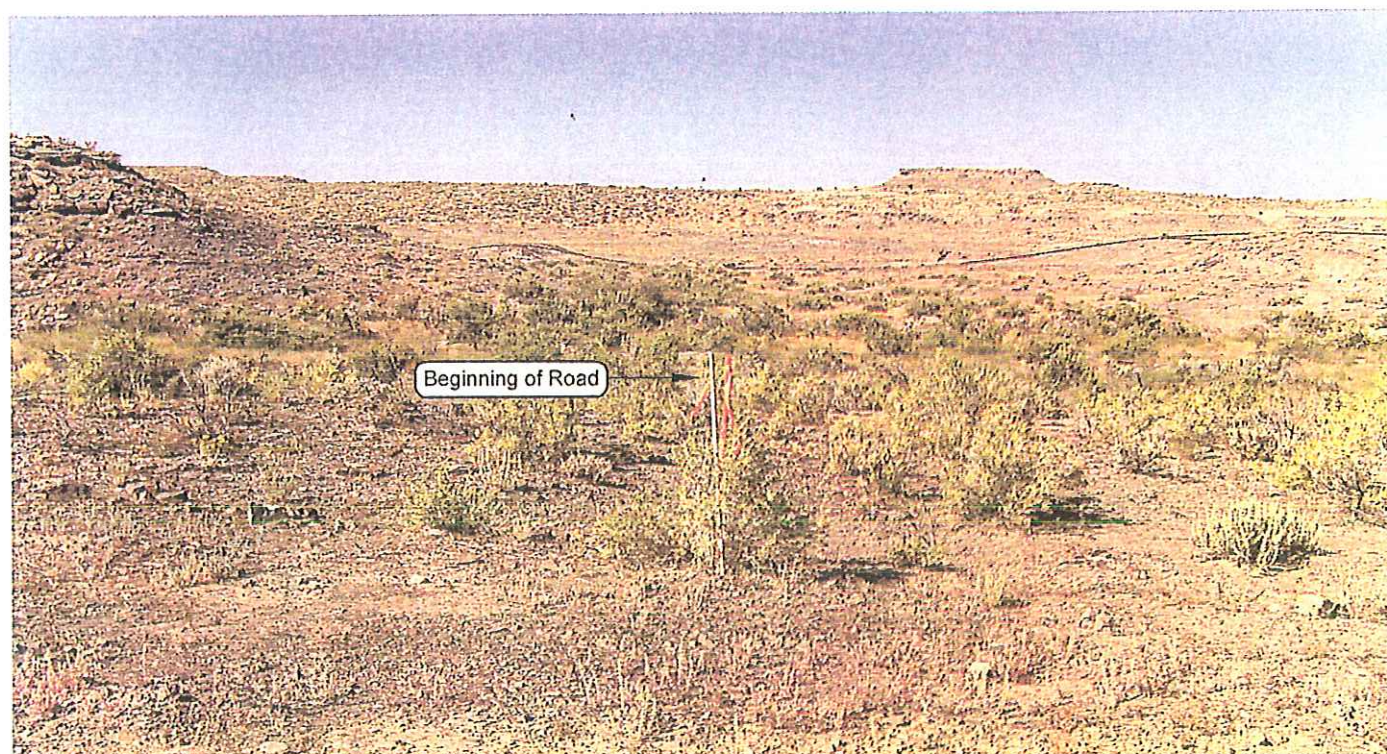


PHOTO VIEW: FROM BEGINNING OF PROPOSED ROAD

CAMERA ANGLE: SOUTHWESTERLY

Kerr-McGee
Oil & Gas Onshore, LP
 1099 18th Street - Denver, Colorado 80202

NBU 920-24B
 473' FNL, 2377' FEL
 NW $\frac{1}{4}$ NE $\frac{1}{4}$ OF SECTION 24, T9S, R20E,
 S.L.B.&M. UINTAH COUNTY, UTAH.



CONSULTING, LLC
 371 Coffeen Avenue
 Sheridan WY 82801
 Phone 307-674-0609
 Fax 307-674-0182

LOCATION PHOTOS

TAKEN BY: B.J.S.

DRAWN BY: B.R.B.

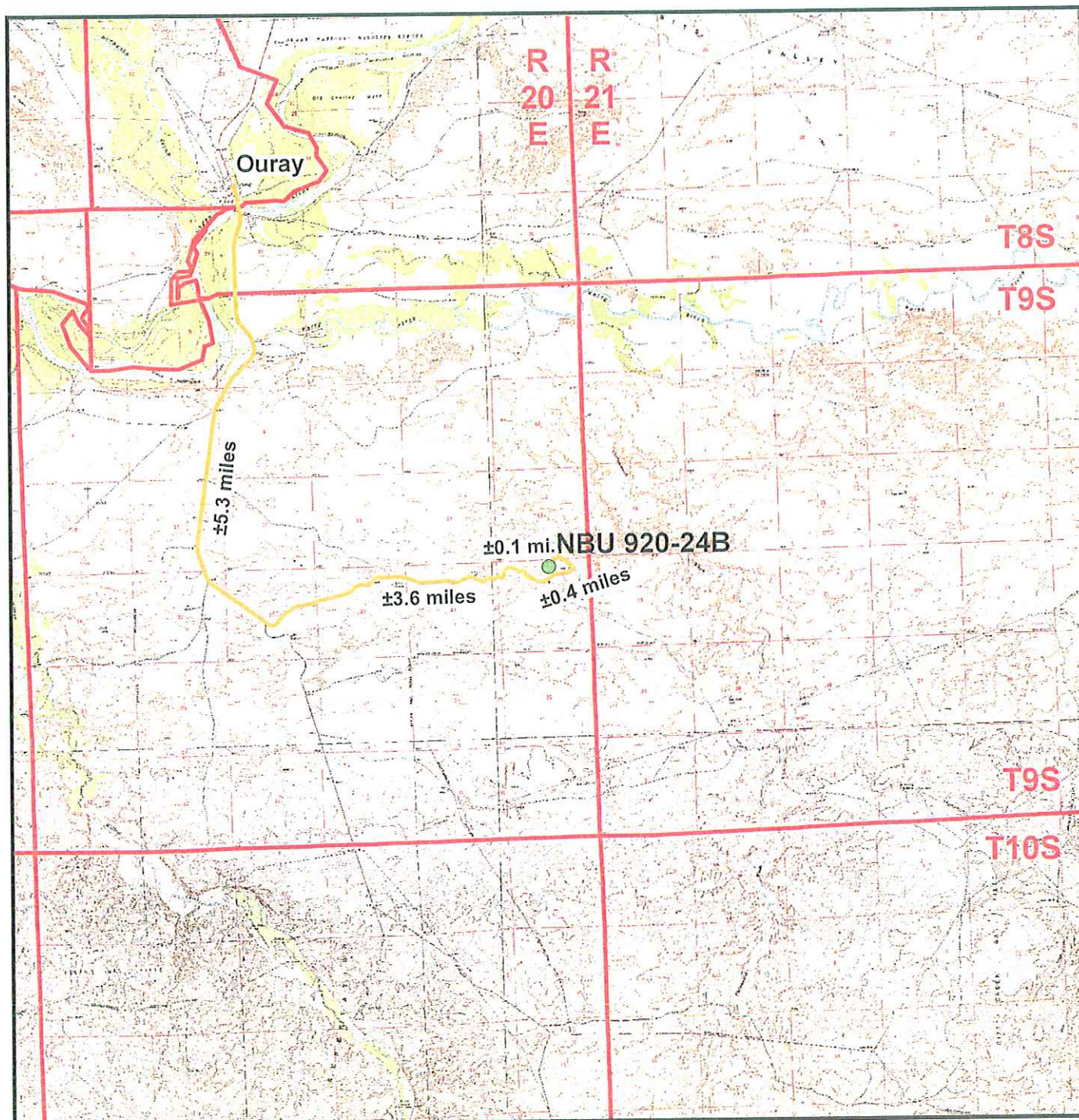
DATE TAKEN: 08-01-08

DATE DRAWN: 08-04-08

REVISED:

Timberline (435) 789-1365
Engineering & Land Surveying, Inc.
 38 WEST 100 NORTH VERNAL, UTAH 84078

SHEET
4
 OF 9



Legend

- Proposed NBU 920-24B Well Location
- Access Route - Proposed

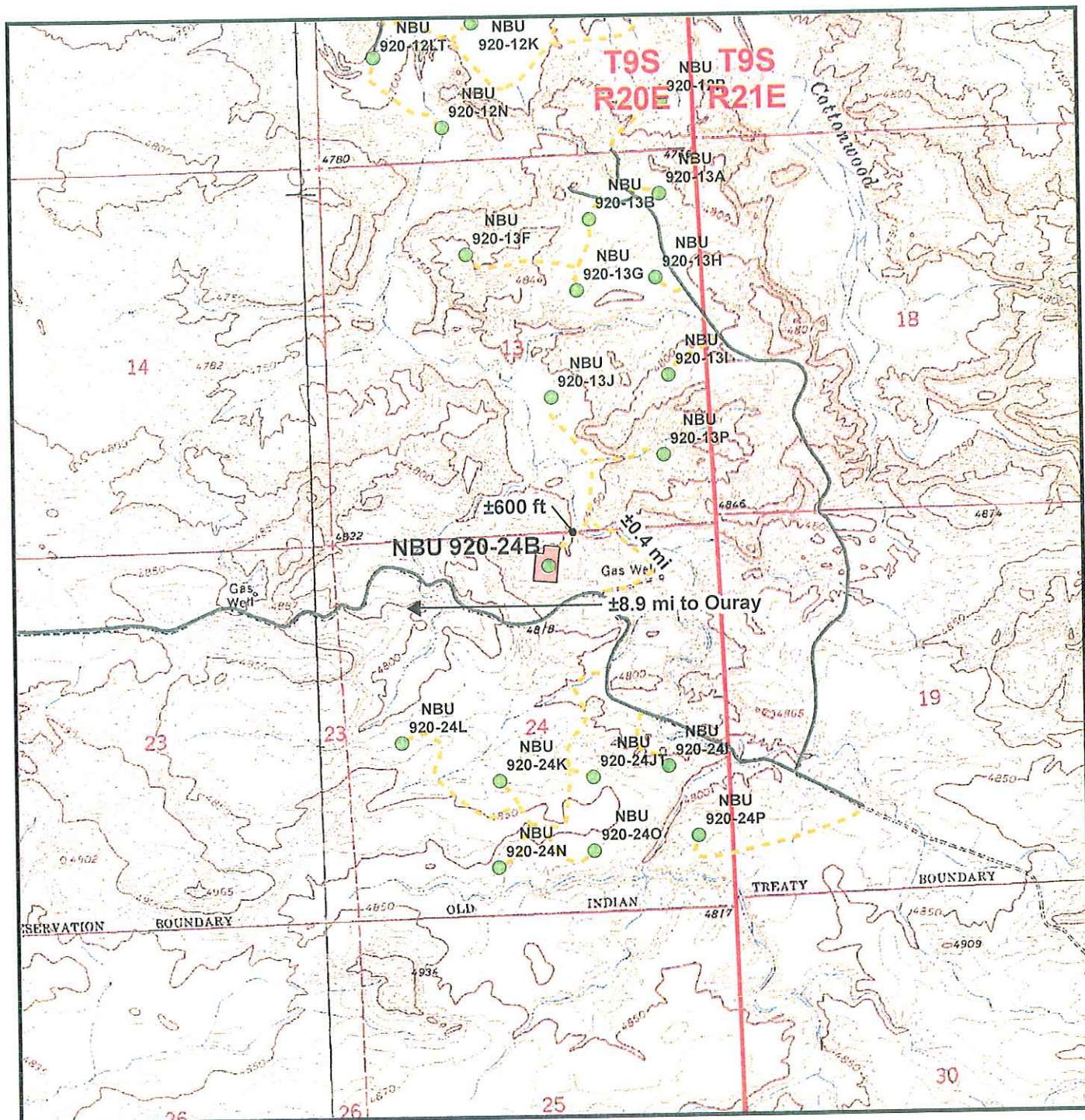
Kerr-McGee Oil & Gas Onshore, LP
1099 18th Street, Denver, Colorado 80202

NBU 920-24B
Topo A
473' FNL, 2377' FEL
NW¼ NE¼, Section 24, T9S, R20E
S.L.B.&M., Uintah County, Utah


609
CONSULTING, LLC
 371 Coffeen Avenue
 Sheridan, WY 82801
 Phone (307) 674-0609
 Fax (307) 674-0182



Scale: 1:100,000	NAD83 USP Central	Sheet No:
Drawn: JELO	Date: 18 Aug 2008	5
Revised:	Date:	5 of 9

**Legend**

- Well - Proposed
 Well Pad
 --- Road - Proposed
 --- Road - Existing

Total Proposed Road Length = ±600 ft

Kerr-McGee Oil & Gas Onshore, LP
1099 18th Street, Denver, Colorado 80202

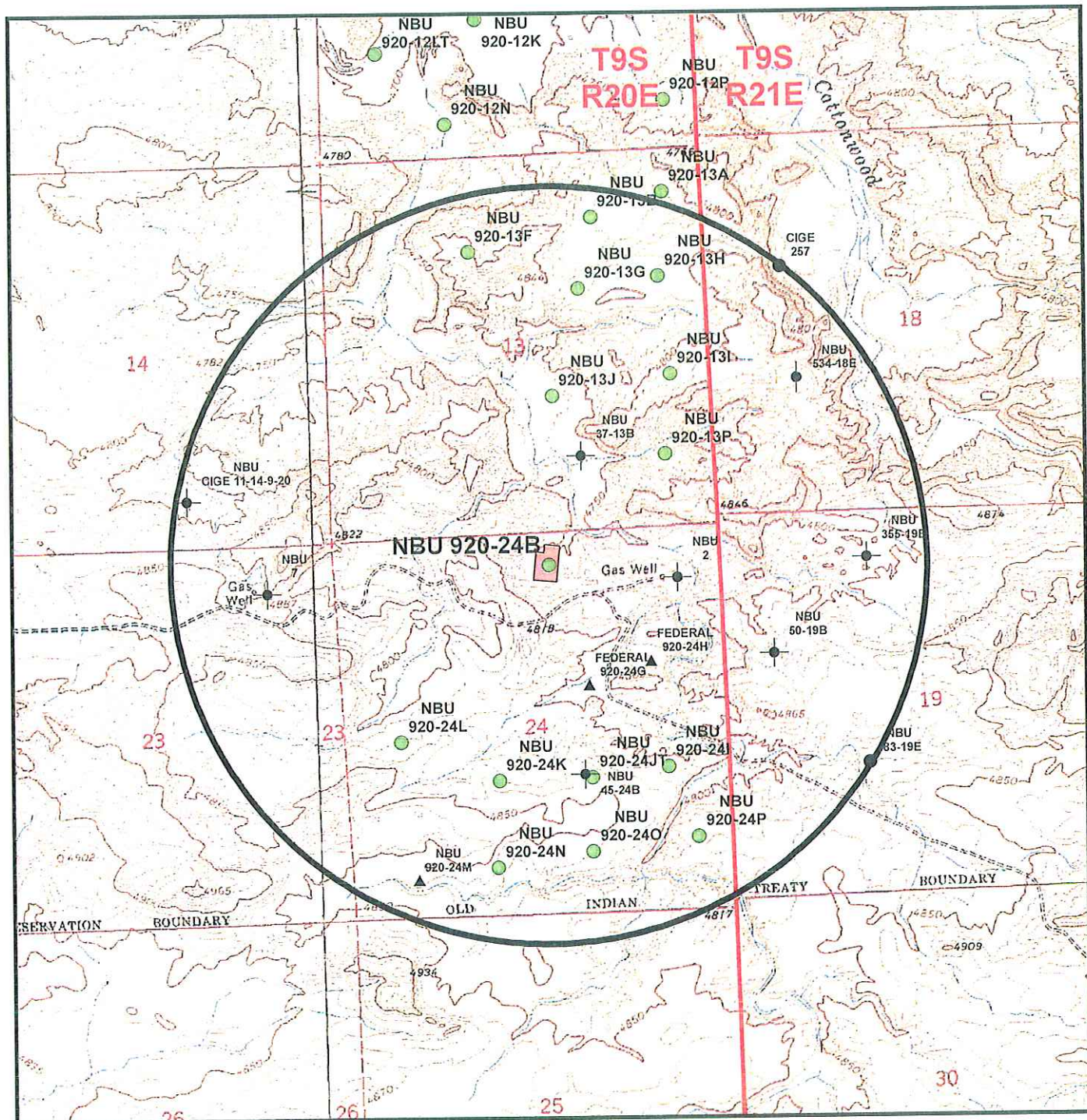
NBU 920-24B
Topo B
473' FNL, 2377' FEL
NW¼ NE¼, Section 24, T9S, R20E
S.L.B.&M., Uintah County, Utah



CONSULTING, LLC
371 Coffeen Avenue
Sheridan, WY 82801
Phone (307) 674-0609
Fax (307) 674-0182



Scale: 1" = 2000ft	NAD83 USP Central	Sheet No:
Drawn: JELO	Date: 18 Aug 2008	6
Revised:	Date:	6 of 9

**Legend**

- Well - Proposed
- Well - 1 Mile Radius
- Well Pad

Well locations derived from State of Utah, Dept. of Natural Resources, Division of Oil, Gas and Mining

- Producing
- ▲ Approved permit (APD); not yet spudded
- Spudded (Drilling commenced; Not yet complete)
- ⊗ Location Abandoned
- ⊙ Temporarily-Abandoned
- ⊕ Plugged and Abandoned
- Shut-In

Kerr-McGee Oil & Gas Onshore, LP
1099 18th Street, Denver, Colorado 80202

NBU 920-24B
Topo C
473' FNL, 2377' FEL
NW¼ NE¼, Section 24, T9S, R20E
S.L.B.&M., Uintah County, Utah



609 CONSULTING, LLC
371 Coffeen Avenue
Sheridan, WY 82801
Phone (307) 674-0609
Fax (307) 674-0182



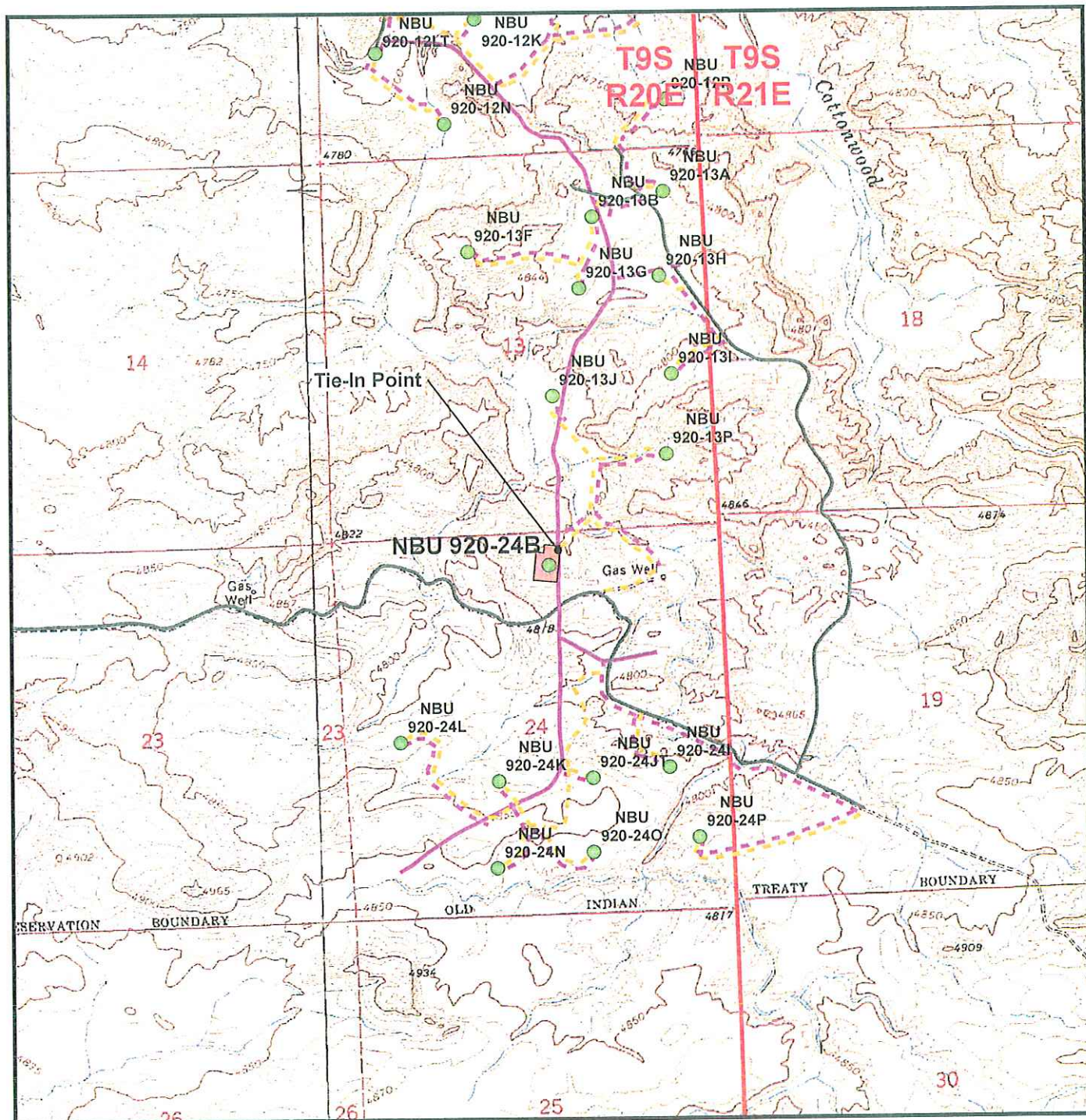
Scale: 1" = 2000ft
Drawn: JELO
Revised:

NAD83 USP Central
Date: 18 Aug 2008
Date:

Sheet No:

7

7 of 9



Kerr-McGee Oil & Gas Onshore, LP
1099 18th Street, Denver, Colorado 80202

NBU 920-24B
Topo D
473' FNL, 2377' FEL
NW¼ NE¼, Section 24, T9S, R20E
S.L.B.&M., Uintah County, Utah

CONSULTING, LLC
371 Coffeen Avenue
Sheridan, WY 82801
Phone (307) 674-0609
Fax (307) 674-0182



Scale: 1" = 2000ft
Drawn: JELO
Revised:
Date: 18 Aug 2008
Date:

Sheet No:

8

8 of 9

API Number: 4304750113

Well Name: NBU 920-24B

Township 09.0 S Range 20.0 E Section 24

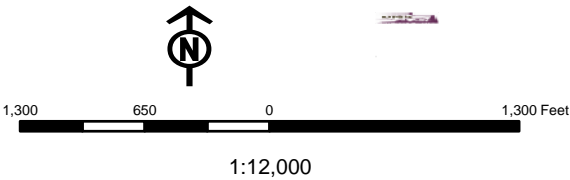
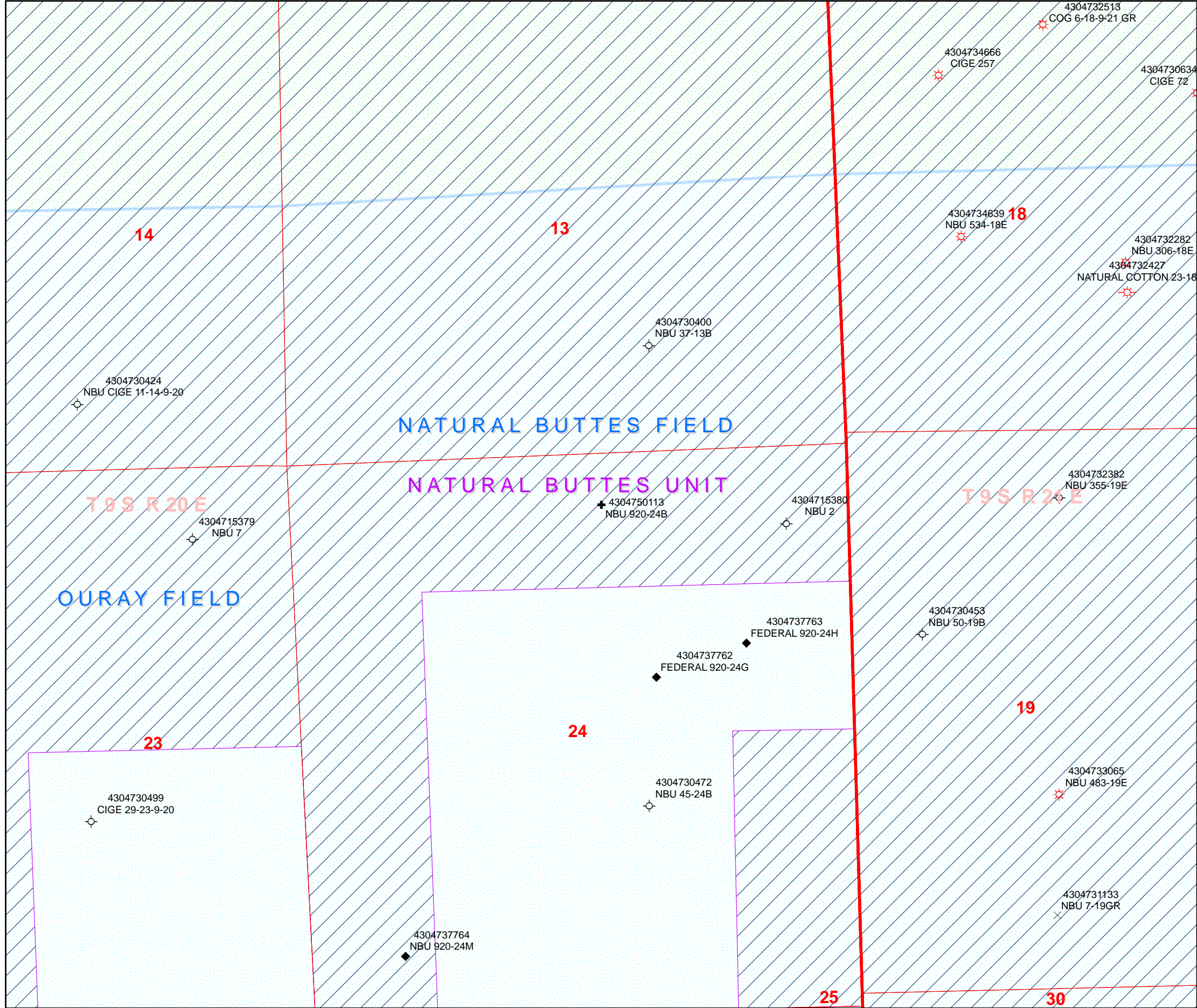
Meridian: SLBM

Operator: KERR-MCGEE OIL & GAS ONSHORE, L.P.

Map Prepared:
Map Produced by Diana Mason

Units
STATUS
ACTIVE
EXPLORATORY
GAS STORAGE
NF PP OIL
NF SECONDARY
PI OIL
PP GAS
PP GEOTHERML
PP OIL
SECONDARY
TERMINATED
Fields
STATUS
ACTIVE
COMBINED
Sections
Township

Wells Query Events
X <all other values>
GIS_STAT_TYPE
<Null>
APD
DRL
GI
GS
LA
NEW
OPS
PA
PGW
POW
RET
SGW
SOW
TA
TW
WD
WI
WS
Bottom Hole Location



United States Department of the Interior

BUREAU OF LAND MANAGEMENT

Utah State Office
P.O. Box 45155
Salt Lake City, Utah 84145-0155

IN REPLY REFER TO:
3160
(UT-922)

September 15, 2008

Memorandum

To: Assistant District Manager Minerals, Vernal District
From: Michael Coulthard, Petroleum Engineer
Subject: 2008 Plan of Development Natural Buttes Unit
Uintah County, Utah.

Pursuant to email between Diana Whitney, Division of Oil, Gas and Mining, and Mickey Coulthard, Utah State Office, Bureau of Land Management, the following wells are planned for calendar year 2008 within the Natural Buttes Unit, Uintah County, Utah.

API #	WELL NAME	LOCATION
(Proposed PZ Wasatch/MesaVerde)		
43-047-50106	NBU 921-8A4T	Sec 08 T09S R21E 0946 FNL 0600 FEL
43-047-50107	NBU 921-8B4S	Sec 08 T09S R21E 0986 FNL 0604 FEL
	BHL	Sec 08 T09S R21E 1080 FNL 1749 FEL
43-047-50109	NBU 921-8A1S	Sec 08 T09S R21E 0926 FNL 0599 FEL
	BHL	Sec 08 T09S R21E 0307 FNL 0575 FEL
43-047-50110	NBU 921-21E4T	Sec 21 T09S R21E 2313 FNL 0696 FWL
43-047-50111	NBU 921-11GT	Sec 11 T09S R21E 2110 FNL 1800 FEL
43-047-50112	NBU 921-11HT	Sec 11 T09S R21E 1807 FNL 0790 FEL
43-047-50113	NBU 920-24B	Sec 24 T09S R20E 0473 FNL 2377 FEL

This office has no objection to permitting the wells at this time.

/s/ Michael L. Coulthard

bcc: File - Natural Buttes Unit
Division of Oil Gas and Mining
Central Files
Agr. Sec. Chron
Fluid Chron

MCoulthard:mc:9-15-08

WORKSHEET

APPLICATION FOR PERMIT TO DRILL

APD RECEIVED: 9/10/2008

API NO. ASSIGNED: 43047501130000

WELL NAME: NBU 920-24B

OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P. (N2995)

PHONE NUMBER: 720 929-6226

CONTACT: Kevin McIntyre

PROPOSED LOCATION: NWNE 24 090S 200E

Permit Tech Review: ☒

SURFACE: 0473 FNL 2377 FEL

Engineering Review: ☐

BOTTOM: 0473 FNL 2377 FEL

Geology Review: ☒

COUNTY: UINTAH

LATITUDE: 40.02702

LONGITUDE: -109.61326

UTM SURF EASTINGS: 618331.00

NORTHINGS: 4431467.00

FIELD NAME: NATURAL BUTTES

LEASE TYPE: 1 - Federal

LEASE NUMBER: UTU-0579

PROPOSED FORMATION: WSMVD

SURFACE OWNER: 2 - Indian

COALBED METHANE: NO

RECEIVED AND/OR REVIEWED:

- ☒ **PLAT**
- ☒ **Bond:** FEDERAL - WYB000291
- ☐ **Potash**
- ☒ **Oil Shale 190-5**
- ☐ **Oil Shale 190-3**
- ☐ **Oil Shale 190-13**
- ☒ **Water Permit:** Permit #43-8496
- ☐ **RDCC Review:**
- ☐ **Fee Surface Agreement**
- ☐ **Intent to Commingle**

LOCATION AND SITING:

- ☐ **R649-2-3.**
- Unit:** NATURAL BUTTES
- ☐ **R649-3-2. General**
- ☐ **R649-3-3. Exception**
- ☒ **Drilling Unit**
- Board Cause No:** 173-14
- Effective Date:** 12/2/1999
- Siting:** 460' fr u bdry & uncomm. tract
- ☐ **R649-3-11. Directional Drill**

Comments: Presite Completed

Stipulations: 4 - Federal Approval - dmason
17 - Oil Shale 190-5(b) - dmason



JON M. HUNTSMAN, JR.
Governor

GARY R. HERBERT
Lieutenant Governor

State of Utah

DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER
Executive Director

Division of Oil, Gas and Mining

JOHN R. BAZA
Division Director

Permit To Drill

Well Name: NBU 920-24B
API Well Number: 43047501130000
Lease Number: UTU-0579
Surface Owner: INDIAN
Approval Date: 9/17/2008

Issued to:

KERR-MCGEE OIL & GAS ONSHORE, L.P. , P.O. Box 173779, Denver, CO 80217

Authority:

Pursuant to Utah Code Ann. §40-6-1 et seq., and Utah Administrative Code R649-3-1 et seq., the Utah Division of Oil, Gas and Mining issues conditions of approval, and permit to drill the listed well. This permit is issued in accordance with the requirements of CAUSE: 173-14.

Duration:

This approval shall expire one year from the above date unless substantial and continuous operation is underway, or a request for extension is made prior to the expiration date

General:

Compliance with the requirements of Utah Admin. R. 649-1 et seq., the Oil and Gas Conservation General Rules, and the applicable terms and provisions of the approved Application for permit to drill.

Conditions of Approval:

State approval of this well does not supercede the required federal approval, which must be obtained prior to drilling.

In accordance with the Order in Cause No. 190-5(b) dated October 28, 1982, the operator shall comply with the requirements of Rules R649-3-31 and R649-3-27 pertaining to Designated Oil Shale Areas. Additionally, the operators shall ensure that the surface and or production casing is properly cemented over the entire oil shale section as defined by Rule R649-3-31. The Operator shall report the actual depth the oil shale is encountered to the division.

Notification Requirements:

Notify the Division with 24 hours of spudding the well.

- Contact Carol Daniels at (801) 538-5284.

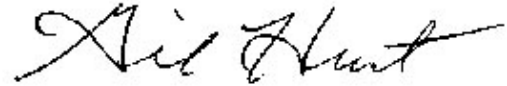
Notify the Division prior to commencing operations to plug and abandon the well.

- Contact Dustin Doucet at (801) 538-5281 office (801) 733-0983 home

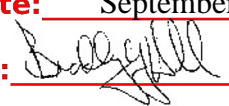
Reporting Requirements:

All required reports, forms and submittals will be promptly filed with the Division, including but not limited to the Entity Action Form (Form 6), Report of Water Encountered During Drilling (Form 7), Weekly Progress Reports for drilling and completion operations, and Sundry Notices and Reports on Wells requesting approval of change of plans or other operational actions.

Approved By:

A handwritten signature in black ink, appearing to read "Gil Hunt", with a stylized, flowing script.

Gil Hunt
Associate Director, Oil & Gas

STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		FORM 9																														
SUNDRY NOTICES AND REPORTS ON WELLS Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		5. LEASE DESIGNATION AND SERIAL NUMBER: UTU-0579																														
1. TYPE OF WELL Gas Well		6. IF INDIAN, ALLOTTEE OR TRIBE NAME: Ute																														
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P.		7. UNIT or CA AGREEMENT NAME: NATURAL BUTTES																														
3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		8. WELL NAME and NUMBER: NBU 920-24B																														
4. LOCATION OF WELL FOOTAGES AT SURFACE: 0473 FNL 2377 FEL QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: NWNE Section: 24 Township: 09.0S Range: 20.0E Meridian: S		9. API NUMBER: 43047501130000																														
PHONE NUMBER: 720 929-6007 Ext		9. FIELD and POOL or WILDCAT: NATURAL BUTTES																														
COUNTY: UINTAH		STATE: UTAH																														
11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA																																
TYPE OF SUBMISSION	TYPE OF ACTION																															
<input checked="" type="checkbox"/> NOTICE OF INTENT Approximate date work will start: 9/14/2009 <input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion: <input type="checkbox"/> SPUD REPORT Date of Spud: <input type="checkbox"/> DRILLING REPORT Report Date:	<table style="width: 100%; border: none;"> <tr> <td><input type="checkbox"/> ACIDIZE</td> <td><input type="checkbox"/> ALTER CASING</td> <td><input type="checkbox"/> CASING REPAIR</td> </tr> <tr> <td><input type="checkbox"/> CHANGE TO PREVIOUS PLANS</td> <td><input type="checkbox"/> CHANGE TUBING</td> <td><input type="checkbox"/> CHANGE WELL NAME</td> </tr> <tr> <td><input type="checkbox"/> CHANGE WELL STATUS</td> <td><input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS</td> <td><input type="checkbox"/> CONVERT WELL TYPE</td> </tr> <tr> <td><input type="checkbox"/> DEEPEN</td> <td><input type="checkbox"/> FRACTURE TREAT</td> <td><input type="checkbox"/> NEW CONSTRUCTION</td> </tr> <tr> <td><input type="checkbox"/> OPERATOR CHANGE</td> <td><input type="checkbox"/> PLUG AND ABANDON</td> <td><input type="checkbox"/> PLUG BACK</td> </tr> <tr> <td><input type="checkbox"/> PRODUCTION START OR RESUME</td> <td><input type="checkbox"/> RECLAMATION OF WELL SITE</td> <td><input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION</td> </tr> <tr> <td><input type="checkbox"/> REPERFORATE CURRENT FORMATION</td> <td><input type="checkbox"/> SIDETRACK TO REPAIR WELL</td> <td><input type="checkbox"/> TEMPORARY ABANDON</td> </tr> <tr> <td><input type="checkbox"/> TUBING REPAIR</td> <td><input type="checkbox"/> VENT OR FLARE</td> <td><input type="checkbox"/> WATER DISPOSAL</td> </tr> <tr> <td><input type="checkbox"/> WATER SHUTOFF</td> <td><input type="checkbox"/> SI TA STATUS EXTENSION</td> <td><input checked="" type="checkbox"/> APD EXTENSION</td> </tr> <tr> <td><input type="checkbox"/> WILDCAT WELL DETERMINATION</td> <td><input type="checkbox"/> OTHER</td> <td>OTHER: _____</td> </tr> </table>		<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> CASING REPAIR	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> CHANGE WELL NAME	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> CONVERT WELL TYPE	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> NEW CONSTRUCTION	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> PLUG BACK	<input type="checkbox"/> PRODUCTION START OR RESUME	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION	<input type="checkbox"/> REPERFORATE CURRENT FORMATION	<input type="checkbox"/> SIDETRACK TO REPAIR WELL	<input type="checkbox"/> TEMPORARY ABANDON	<input type="checkbox"/> TUBING REPAIR	<input type="checkbox"/> VENT OR FLARE	<input type="checkbox"/> WATER DISPOSAL	<input type="checkbox"/> WATER SHUTOFF	<input type="checkbox"/> SI TA STATUS EXTENSION	<input checked="" type="checkbox"/> APD EXTENSION	<input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> OTHER	OTHER: _____
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<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> CHANGE WELL NAME																														
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<input type="checkbox"/> TUBING REPAIR	<input type="checkbox"/> VENT OR FLARE	<input type="checkbox"/> WATER DISPOSAL																														
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<input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> OTHER	OTHER: _____																														
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc. Kerr-McGee Oil & Gas Onshore, L.P. (Kerr-McGee) respectfully requests an extension to this APD for the maximum time allowed. Please contact the undersigned with any questions and/or comments. Thank you.																																
<div style="text-align: right;"> Approved by the Utah Division of Oil, Gas and Mining </div>		Date: <u>September 14, 2009</u>																														
<div style="text-align: right;"> By:  </div>																																
NAME (PLEASE PRINT) Danielle Piernot		PHONE NUMBER 720 929-6156																														
SIGNATURE N/A		TITLE Regulatory Analyst																														
		DATE 9/10/2009																														



The Utah Division of Oil, Gas, and Mining

- State of Utah
- Department of Natural Resources

Electronic Permitting System - Sundry Notices

Request for Permit Extension Validation Well Number 43047501130000

API: 43047501130000

Well Name: NBU 920-24B

Location: 0473 FNL 2377 FEL QTR NWNE SEC 24 TWNP 090S RNG 200E MER S

Company Permit Issued to: KERR-MCGEE OIL & GAS ONSHORE, L.P.

Date Original Permit Issued: 9/18/2008

The undersigned as owner with legal rights to drill on the property as permitted above, hereby verifies that the information as submitted in the previously approved application to drill, remains valid and does not require revision. Following is a checklist of some items related to the application, which should be verified.

- If located on private land, has the ownership changed, if so, has the surface agreement been updated? ☐ Yes ☒ No
- Have any wells been drilled in the vicinity of the proposed well which would affect the spacing or siting requirements for this location? ☐ Yes ☒ No
- Has there been any unit or other agreements put in place that could affect the permitting or operation of this proposed well? ☐ Yes ☒ No
- Have there been any changes to the access route including ownership, or rightof- way, which could affect the proposed location? ☐ Yes ☒ No
- Has the approved source of water for drilling changed? ☐ Yes ☒ No
- Have there been any physical changes to the surface location or access route which will require a change in plans from what was discussed at the onsite evaluation? ☐ Yes ☒ No
- Is bonding still in place, which covers this proposed well? ☒ Yes ☐ No

**Approved by the
Utah Division of
Oil, Gas and Mining**

Signature: Danielle Piernot

Date: 9/10/2009

Title: Regulatory Analyst **Representing:** KERR-MCGEE OIL & GAS ONSHORE, L.P.

Date: September 14, 2009

By: 

RECEIVED September 10, 2009

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB No. 1004-0137
Expires July 31, 2010

RECEIVED
VERNAL FIELD OFFICE


APPLICATION FOR PERMIT TO DRILL OR REENTER

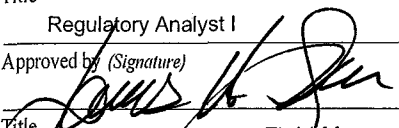
1a. Type of work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. UTU 5579
1b. Type of Well: <input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other <input type="checkbox"/> Single Zone <input checked="" type="checkbox"/> Multiple Zone		6. If Indian, Allottee or Tribe Name Ute Tribe
2. Name of Operator Kerr-McGee Oil & Gas Onshore, LP		7. If Unit or CA Agreement, Name and No. 9100800A
3a. Address P.O. Box 173779, Denver, CO 80217-3779	3b. Phone No. (include area code) 720.929.6226	8. Lease Name and Well No. NBU 920-24B
4. Location of Well (Report location clearly and in accordance with any State requirements.)* At surface NWNE 473' FNL & 2377' FEL LAT 40.02706 LON -109.61331 (NAD 27) At proposed prod. zone N/A		9. API Well No. 43 047 50113
10. Field and Pool, or Exploratory Natural Buttes Field		11. Sec., T. R. M. or Blk. and Survey or Area Sec. 24, T 9S, R 20E
14. Distance in miles and direction from nearest town or post office* 8.9 miles southeast of Ouray, Utah		12. County or Parish Uintah
13. State UT		
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 473'	16. No. of acres in lease 1920	17. Spacing Unit dedicated to this well Unit Well
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 2,000'	19. Proposed Depth 10,400'	20. BLM/BIA Bond No. on file WYB000291
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 4,750.6' GL	22. Approximate date work will start*	23. Estimated duration 10 days

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No.1, must be attached to this form:

- | | |
|--|---|
| 1. Well plat certified by a registered surveyor. | 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above). |
| 2. A Drilling Plan. | 5. Operator certification |
| 3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office). | 6. Such other site specific information and/or plans as may be required by the BLM. |

25. Signature 	Name (Printed/Typed) Kevin McIntyre	Date 09/10/2008
--	--	--------------------

Title Regulatory Analyst I		
Approved by (Signature) 	Name (Printed/Typed) James H. Sparger	Date JUL 29 2010
Title Acting Assistant Field Manager Lands & Mineral Resources	Office VERNAL FIELD OFFICE	

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.
Conditions of approval, if any, are attached.

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Continued on page 2)

*(Instructions on page 2)

NOS apd posted 9/17/08
AFMSS# 09JME002A

RECEIVED UDOGM

AUG 23 2010

CONDITIONS OF APPROVAL ATTACHED

DIV. OF OIL, GAS & MINING

NOTICE OF APPROVAL



UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
VERNAL FIELD OFFICE

170 South 500 East

VERNAL, UT 84078

(435) 781-4400



CONDITIONS OF APPROVAL FOR APPLICATION FOR PERMIT TO DRILL

Company: Kerr McGee Oil & Gas Onshore LP
Well No: NBU 920-24B
API No: 43-047-50113

Location: NWNE, Sec. 24, T9S, R20E
Lease No: UTU-0579
Agreement: UTU63047A

OFFICE NUMBER: (435) 781-4400

OFFICE FAX NUMBER: (435) 781-3420

**A COPY OF THESE CONDITIONS SHALL BE FURNISHED TO YOUR
FIELD REPRESENTATIVE TO INSURE COMPLIANCE**

All lease and/or unit operations are to be conducted in such a manner that full compliance is made with the applicable laws, regulations (43 CFR Part 3160), and this approved Application for Permit to Drill including Surface and Downhole Conditions of Approval. The operator is considered fully responsible for the actions of his subcontractors. A copy of the approved APD must be on location during construction, drilling, and completion operations. **This permit is approved for a two (2) year period, or until lease expiration, whichever occurs first. An additional extension, up to two (2) years, may be applied for by sundry notice prior to expiration.**

NOTIFICATION REQUIREMENTS

Construction Activity (Notify Ute Tribe Energy & Minerals Dept. and BLM Environmental Scientist)	- The Ute Tribe Energy & Minerals Dept. and BLM Environmental Scientist shall be notified at least 48 hours in advance of any construction activity. The Ute Tribal office is open Monday through Thursday.
Construction Completion (Notify Ute Tribe Energy & Minerals Dept. and BLM Environmental Scientist)	- Upon completion of the pertinent APD/ROW construction, notify the Ute Tribe Energy & Minerals Dept. for a Tribal Technician to verify the Affidavit of Completion. Notify the BLM Environmental Scientist prior to moving on the drilling rig.
Spud Notice (Notify BLM Petroleum Engineer)	- Twenty-Four (24) hours prior to spudding the well.
Casing String & Cementing (Notify BLM Supv. Petroleum Tech.)	- Twenty-Four (24) hours prior to running casing and cementing all casing strings to: ut_vn_opreport@blm.gov .
BOP & Related Equipment Tests (Notify BLM Supv. Petroleum Tech.)	- Twenty-Four (24) hours prior to initiating pressure tests.
First Production Notice (Notify BLM Petroleum Engineer)	- Within Five (5) business days after new well begins or production resumes after well has been off production for more than ninety (90) days.

***SURFACE USE PROGRAM
CONDITIONS OF APPROVAL (COAs)***

SITE SPECIFIC SURFACE COA's

- Paint facilities "shadow gray."
- Construct low-water crossings on the access road where it crosses two drainages.
- Follow the procedures specified in the BLM's Considerations for Pipeline Crossings of Stream Channels where the gathering line would cross a drainage (BLM 2007).
- Consult with the Department of Army Corps of Engineers to determine the applicability of obtaining a Nationwide Permit # 14 to cross two drainages. If acceptable to the Corps, bury the pipeline under the first drainage and span the second drainage.
- In accordance with the guidelines specified in the Utah BLM Field Office Guidelines for Raptor Protection from Human and Land Use Disturbances, 2002 (See Appendix D), a raptor survey should be conducted prior to construction of the proposed location, pipeline, or access road if construction would take place during raptor nesting season (January 01 through September 30) and conduct its operations according to specification in the guidelines. The USFWS recommends a ¼ mile avoidance buffer surrounding active burrowing nests between March 1 and August 31.
- If project construction operations are scheduled to occur after June 10, 2010, KMG will conduct additional biological surveys in accordance with the guidelines specified in the USFWS Rare Plant Conservation Measures for Uinta Basin hookless cactus (See Appendix D) and conduct its operation according to its specifications.

BIA Standard Conditions of Approval:

- Soil erosion will be mitigated by reseeding all disturbed areas.
- The gathering pipelines will be constructed to lie on the surface. The surface pipelines will not be bladed or cleared of vegetation. Where pipelines are constructed parallel to roads they may be welded on the road and then lifted from the road onto the right-of-way. Where pipelines do not parallel roads but cross-country between sites, they shall be welded in place at well sites or on access roads and then pulled between stations with a suitable piece of equipment. Traffic will be restricted along these areas so that the pipeline right-of-way will not be used as an access road.
- An open drilling system shall be used, unless otherwise specified in 10.0 Additional Stipulations of this document and in the Application for Permit to Drill. A closed drilling system shall be used in all flood plain areas, and other highly sensitive areas, recommended by the Ute Tribe Technician, BIA, and other agencies involved.
- The reserve pit shall be lined with a synthetic leak proof liner. After the drilling operation is complete, excess fluids shall be removed from the reserve pit and either hauled to an approved disposal site or shall be used to drill other wells. When the fluids are removed the pit shall be backfilled a minimum of 3.0' below the soil surface elevation.

- A closed production system shall be used. This means all produced water and oil field fluid wastes shall be contained in leak proof tanks. These fluids shall be disposed of in either approved injection wells or disposal pits.
- Major low water crossings will be armored with pit run material to protect them from erosion.
- All personnel should refrain from collecting any paleontological fossils and from disturbing any fossil resources in the area.
- If fossils are exposed or identified during construction, all construction must cease and immediate notification to the Energy and Minerals Department and the Cultural Rights Protection Officer.
- Before the site is abandoned the company will be required to restore the right-of-way to near its original state. The disturbed area will be reseeded with desirable perennial vegetation. If necessary, the Bureau of Indian Affairs or Bureau of Land Management will provide a suitable seed mixture.
- Noxious weeds will be controlled on all surface disturbances within the project area. If noxious weeds spread from the project area onto adjoining land, the company will also be responsible for their control.
- If project construction operations are scheduled to occur after December 31, 2009, KMG should conduct annual raptor surveys in accordance with the guidelines specified in the Utah Field Office Guidelines for Raptor Protection from Human and Land Use Disturbances, 2002 (See Appendix E) and conduct its operations according to applicable seasonal restrictions and spatial offsets.
- USFWS threatened and endangered plant and animal conservation measures will be followed, as appropriate to the species identified by the biological resource survey (See Appendix E).
- All personnel should refrain from collecting artifacts and from disturbing any significant cultural resources in the area.
- If artifacts or any culturally sensitive materials are exposed or identified during construction, all construction must cease and immediate notification to the Energy and Minerals Department and the Cultural Rights Protection Officer.

**DOWNHOLE PROGRAM
CONDITIONS OF APPROVAL (COAs)**

SITE SPECIFIC DOWNHOLE COAs:

- Kerr McGee and their contractors shall strictly adhere to all operating practices in the SOP along with all Oil and Gas rules and requirements listed in the Code of Federal Regulations and all Federal Onshore Oil and Gas Orders except where variances have been granted.

All provisions outlined in Onshore Oil & Gas Order #2 Drilling Operations shall be strictly adhered to. The following items are emphasized:

DRILLING/COMPLETION/PRODUCING OPERATING STANDARDS

- The spud date and time shall be reported orally to Vernal Field Office within 24 hours of spudding.
- Notify Vernal Field Office Supervisory Petroleum Engineering Technician at least 24 hours in advance of casing cementing operations and BOPE & casing pressure tests.
- All requirements listed in Onshore Order #2 III. E. Special Drilling Operations are applicable for air drilling of surface hole.
- Blowout prevention equipment (BOPE) shall remain in use until the well is completed or abandoned. Closing unit controls shall remain unobstructed and readily accessible at all times. Choke manifolds shall be located outside of the rig substructure.
- All BOPE components shall be inspected daily and those inspections shall be recorded in the daily drilling report. Components shall be operated and tested as required by Onshore Oil & Gas Order No. 2 to insure good mechanical working order. All BOPE pressure tests shall be performed by a test pump with a chart recorder and **NOT** by the rig pumps. Test shall be reported in the driller's log.
- BOP drills shall be initially conducted by each drilling crew within 24 hours of drilling out from under the surface casing and weekly thereafter as specified in Onshore Oil & Gas Order No. 2.
- Casing pressure tests are required before drilling out from under all casing strings set and cemented in place.
- No aggressive/fresh hard-banded drill pipe shall be used within casing.
- **Cement baskets shall not be run on surface casing.**
- The operator must report all shows of water or water-bearing sands to the BLM. If flowing water is encountered it must be sampled, analyzed, and a copy of the analyses submitted to the BLM Vernal Field Office.
- The operator must report encounters of all non oil & gas mineral resources (such as Gilsonite, tar sands, oil shale, trona, etc.) to the Vernal Field Office, in writing, within 5 working days of each encounter. Each report shall include the well name/number, well location, date and depth

(from KB or GL) of encounter, vertical footage of the encounter and, the name of the person making the report (along with a telephone number) should the BLM need to obtain additional information.

- A complete set of angular deviation and directional surveys of a directional well will be submitted to the Vernal BLM office engineer within 30 days of the completion of the well.
- While actively drilling, chronologic drilling progress reports shall be filed directly with the BLM, Vernal Field Office on a weekly basis in sundry, letter format or e-mail to the Petroleum Engineers until the well is completed.
- A cement bond log (CBL) will be run from the production casing shoe to the top of cement and shall be utilized to determine the bond quality for the production casing. Submit a field copy of the CBL to this office.
- **Please submit an electronic copy of all other logs run on this well in LAS format to UT_VN_Welllogs@BLM.gov. This submission will supersede the requirement for submittal of paper logs to the BLM.**
- There shall be no deviation from the proposed drilling, completion, and/or workover program as approved. Safe drilling and operating practices must be observed. Any changes in operation must have prior approval from the BLM Vernal Field Office.

OPERATING REQUIREMENT REMINDERS:

- All wells, whether drilling, producing, suspended, or abandoned, shall be identified in accordance with 43 CFR 3162.6. There shall be a sign or marker with the name of the operator, lease serial number, well number, and surveyed description of the well.
- In accordance with 43 CFR 3162.4-3, this well shall be reported on the "Monthly Report of Operations" (Oil and Gas Operations Report ((OGOR)) starting with the month in which operations commence and continue each month until the well is physically plugged and abandoned. This report shall be filed in duplicate, directly with the Minerals Management Service, P.O. Box 17110, Denver, Colorado 80217-0110, or call 1-800-525-7922 (303) 231-3650 for reporting information.
- Should the well be successfully completed for production, the BLM Vernal Field office must be notified when it is placed in a producing status. Such notification will be by written communication and must be received in this office by not later than the fifth business day following the date on which the well is placed on production. The notification shall provide, as a minimum, the following informational items:
 - Operator name, address, and telephone number.
 - Well name and number.
 - Well location (¼¼, Sec., Twn, Rng, and P.M.).
 - Date well was placed in a producing status (date of first production for which royalty will be paid).
 - The nature of the well's production, (i.e., crude oil, or crude oil and casing head gas, or natural gas and entrained liquid hydrocarbons).
 - The Federal or Indian lease prefix and number on which the well is located; otherwise the non-Federal or non-Indian land category, i.e., State or private.
 - Unit agreement and/or participating area name and number, if applicable.
 - Communitization agreement number, if applicable.
- Any venting or flaring of gas shall be done in accordance with Notice to Lessees (NTL) 4A and needs prior approval from the BLM Vernal Field Office.
- All undesirable events (fires, accidents, blowouts, spills, discharges) as specified in NTL 3A will be reported to the BLM, Vernal Field Office. Major events, as defined in NTL3A, shall be reported verbally within 24 hours, followed by a written report within 15 days. "Other than Major Events" will be reported in writing within 15 days. "Minor Events" will be reported on the Monthly Report of Operations and Production.
- Whether the well is completed as a dry hole or as a producer, "Well Completion and Recompletion Report and Log" (BLM Form 3160-4) shall be submitted not later than 30 days after completion of the well or after completion of operations being performed, in accordance with 43 CFR 3162.4-1. Two copies of all logs run, core descriptions, and all other surveys or

data obtained and compiled during the drilling, workover, and/or completion operations, shall be filed on BLM Form 3160-4. Submit with the well completion report a geologic report including, at a minimum, formation tops, and a summary and conclusions. Also include deviation surveys, sample descriptions, strip logs, core data, drill stem test data, and results of production tests if performed. Samples (cuttings, fluid, and/or gas) shall be submitted only when requested by the BLM, Vernal Field Office.

- All off-lease storage, off-lease measurement, or commingling on-lease or off-lease, shall have prior written approval from the BLM Vernal Field Office.
- Oil and gas meters shall be calibrated in place prior to any deliveries. The BLM Vernal Field Office Petroleum Engineers will be provided with a date and time for the initial meter calibration and all future meter proving schedules. A copy of the meter calibration reports shall be submitted to the BLM Vernal Field Office. All measurement facilities will conform to the API standards for liquid hydrocarbons and the AGA standards for natural gas measurement. All measurement points shall be identified as the point of sale or allocation for royalty purposes.
- A schematic facilities diagram as required by Onshore Oil & Gas Order No. 3 shall be submitted to the BLM Vernal Field Office within 30 days of installation or first production, whichever occurs first. All site security regulations as specified in Onshore Oil & Gas Order No. 3 shall be adhered to. All product lines entering and leaving hydrocarbon storage tanks will be effectively sealed in accordance with Onshore Oil & Gas Order No. 3.
- Any additional construction, reconstruction, or alterations of facilities, including roads, gathering lines, batteries, etc., which will result in the disturbance of new ground, shall require the filing of a suitable plan and need prior approval of the BLM Vernal Field Office. Emergency approval may be obtained orally, but such approval does not waive the written report requirement.
- No location shall be constructed or moved, no well shall be plugged, and no drilling or workover equipment shall be removed from a well to be placed in a suspended status without prior approval of the BLM Vernal Field Office. If operations are to be suspended for more than 30 days, prior approval of the BLM Vernal Field Office shall be obtained and notification given before resumption of operations.
- Pursuant to Onshore Oil & Gas Order No. 7, this is authorization for pit disposal of water produced from this well for a period of 90 days from the date of initial production. A permanent disposal method must be approved by this office and in operation prior to the end of this 90-day period. In order to meet this deadline, an application for the proposed permanent disposal method shall be submitted along with any necessary water analyses, as soon as possible, but no later than 45 days after the date of first production. Any method of disposal which has not been approved prior to the end of the authorized 90-day period will be considered as an Incident of Noncompliance and will be grounds for issuing a shut-in order until an acceptable manner for disposing of said water is provided and approved by this office.
- Unless the plugging is to take place immediately upon receipt of oral approval, the Field Office Petroleum Engineers must be notified at least 24 hours in advance of the plugging of the well, in order that a representative may witness plugging operations. If a well is suspended or abandoned, all pits must be fenced immediately until they are backfilled. The "Subsequent Report of Abandonment" (Form BLM 3160-5) must be submitted within 30 days after the actual plugging of the well bore, showing location of plugs, amount of cement in each, and amount of casing left in hole, and the current status of the surface restoration.

STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		FORM 9
SUNDRY NOTICES AND REPORTS ON WELLS Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		5. LEASE DESIGNATION AND SERIAL NUMBER: UTU-0579
1. TYPE OF WELL Gas Well		6. IF INDIAN, ALLOTTEE OR TRIBE NAME: Ute
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P.		7. UNIT or CA AGREEMENT NAME: NATURAL BUTTES
3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		8. WELL NAME and NUMBER: NBU 920-24B
4. LOCATION OF WELL FOOTAGES AT SURFACE: 0473 FNL 2377 FEL QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: NWNE Section: 24 Township: 09.0S Range: 20.0E Meridian: S		9. API NUMBER: 43047501130000
PHONE NUMBER: 720 929-6007 Ext		9. FIELD and POOL or WILDCAT: NATURAL BUTTES
COUNTY: UTAH		STATE: UTAH

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
<input checked="" type="checkbox"/> NOTICE OF INTENT Approximate date work will start: 9/20/2010 <input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion: <input type="checkbox"/> SPUD REPORT Date of Spud: <input type="checkbox"/> DRILLING REPORT Report Date:	<input type="checkbox"/> ACIDIZE <input type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> DEEPEN <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PRODUCTION START OR RESUME <input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> WATER SHUTOFF <input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> ALTER CASING <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> SI TA STATUS EXTENSION <input type="checkbox"/> OTHER	<input type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CONVERT WELL TYPE <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> PLUG BACK <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION <input type="checkbox"/> TEMPORARY ABANDON <input type="checkbox"/> WATER DISPOSAL <input checked="" type="checkbox"/> APD EXTENSION OTHER:

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.
 Kerr-McGee Oil & Gas Onshore, L.P. (Kerr-McGee) respectfully requests an extension to this APD for the maximum time allowed. Please contact the undersigned with any questions and/or comments. Thank you.

Approved by the
Utah Division of
Oil, Gas and Mining

Date: September 28, 2010

By:

NAME (PLEASE PRINT) Danielle Piernot	PHONE NUMBER 720 929-6156	TITLE Regulatory Analyst
SIGNATURE N/A		DATE 9/20/2010



The Utah Division of Oil, Gas, and Mining

- State of Utah
- Department of Natural Resources

Electronic Permitting System - Sundry Notices

Request for Permit Extension Validation Well Number 43047501130000

API: 43047501130000

Well Name: NBU 920-24B

Location: 0473 FNL 2377 FEL QTR NWNE SEC 24 TWNP 090S RNG 200E MER S

Company Permit Issued to: KERR-MCGEE OIL & GAS ONSHORE, L.P.

Date Original Permit Issued: 9/18/2008

The undersigned as owner with legal rights to drill on the property as permitted above, hereby verifies that the information as submitted in the previously approved application to drill, remains valid and does not require revision. Following is a checklist of some items related to the application, which should be verified.

- If located on private land, has the ownership changed, if so, has the surface agreement been updated? ☐ Yes ☒ No
- Have any wells been drilled in the vicinity of the proposed well which would affect the spacing or siting requirements for this location? ☐ Yes ☒ No
- Has there been any unit or other agreements put in place that could affect the permitting or operation of this proposed well? ☐ Yes ☒ No
- Have there been any changes to the access route including ownership, or rightof- way, which could affect the proposed location? ☐ Yes ☒ No
- Has the approved source of water for drilling changed? ☐ Yes ☒ No
- Have there been any physical changes to the surface location or access route which will require a change in plans from what was discussed at the onsite evaluation? ☐ Yes ☒ No
- Is bonding still in place, which covers this proposed well? ☒ Yes ☐ No

Approved by the
Utah Division of
Oil, Gas and Mining

Signature: Danielle Piernot

Date: 9/20/2010

Title: Regulatory Analyst **Representing:** KERR-MCGEE OIL & GAS ONSHORE, L.P.

Date: September 28, 2010

By: 

RECEIVED September 20, 2010

STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		FORM 9			
SUNDRY NOTICES AND REPORTS ON WELLS Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		5. LEASE DESIGNATION AND SERIAL NUMBER: UTU-0579			
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11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA		9. FIELD and POOL or WILDCAT: NATURAL BUTTES			
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TYPE OF SUBMISSION	TYPE OF ACTION				
<input checked="" type="checkbox"/> NOTICE OF INTENT Approximate date work will start: 4/12/2011 <input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion: <input type="checkbox"/> SPUD REPORT Date of Spud: <input type="checkbox"/> DRILLING REPORT Report Date:	<table style="width: 100%; border: none;"> <tr> <td style="width: 33%; vertical-align: top;"> <input type="checkbox"/> ACIDIZE <input type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE WELL STATUS <input checked="" type="checkbox"/> DEEPEN <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PRODUCTION START OR RESUME <input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> WATER SHUTOFF <input type="checkbox"/> WILDCAT WELL DETERMINATION </td> <td style="width: 33%; vertical-align: top;"> <input type="checkbox"/> ALTER CASING <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> SI TA STATUS EXTENSION <input type="checkbox"/> OTHER </td> <td style="width: 33%; vertical-align: top;"> <input type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CONVERT WELL TYPE <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> PLUG BACK <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION <input type="checkbox"/> TEMPORARY ABANDON <input type="checkbox"/> WATER DISPOSAL <input type="checkbox"/> APD EXTENSION OTHER: </td> </tr> </table>		<input type="checkbox"/> ACIDIZE <input type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE WELL STATUS <input checked="" type="checkbox"/> DEEPEN <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PRODUCTION START OR RESUME <input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> WATER SHUTOFF <input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> ALTER CASING <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> SI TA STATUS EXTENSION <input type="checkbox"/> OTHER	<input type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CONVERT WELL TYPE <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> PLUG BACK <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION <input type="checkbox"/> TEMPORARY ABANDON <input type="checkbox"/> WATER DISPOSAL <input type="checkbox"/> APD EXTENSION OTHER:
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12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc. Kerr-McGee Oil & Gas Onshore, L.P. (Kerr-McGee) respectfully requests to change the total depth (TD) to include the Blackhawk formation, which is in the Mesaverde group for this well. In addition, Kerr-McGee respectfully request approval in the well design, which includes hole and casing size changes. Please see attached for additional details. Please contact the undersigned if you have any questions and/or comments. Thank you.					
Approved by the Utah Division of Oil, Gas and Mining Date: 04/14/2011 By:					
NAME (PLEASE PRINT) Andy Lytle		PHONE NUMBER 720 929-6100			
SIGNATURE N/A		TITLE Regulatory Analyst			
DATE 4/12/2011					



KERR-McGEE OIL & GAS ONSHORE LP
DRILLING PROGRAM

COMPANY NAME	KERR-McGEE OIL & GAS ONSHORE LP					DATE	April 12, 2011		
WELL NAME	NBU 920-24B					TD	11,498'	TVD	11,498' MD
FIELD	Natural Buttes	COUNTY		Uintah	STATE	Utah	FINISHED ELEVATION		4,750'
SURFACE LOCATION	NWNE	473 FNL	2377 FEL	Sec 24	T 9S	R 20E			
	Latitude:	40.027020	Longitude:	-109.614000			NAD 27		
BTM HOLE LOCATION	NWNE	473 FNL	2377 FEL	Sec 24	T 9S	R 20E			
	Latitude:	40.027020	Longitude:	-109.614000			NAD 27		
OBJECTIVE ZONE(S)	Wasatch/Mesaverde								
ADDITIONAL INFO	Regulatory Agencies: BLM (Minerals), TRIBAL (Surface), UDOGM Tri-County Health Dept.								

GEOLOGICAL			MECHANICAL		
LOGS	FORMATION TOPS	DEPTH	HOLE SIZE	CASING SIZE	MUD WEIGHT
		40'		14"	
All water flows encountered while drilling will be reported to the appropriate agencies.			11.00'	8-5/8", 28#, IJ-55, LTC	Air mist
	Green River @ Top of Birds Nest @ Mahogany @	1,649' 1,901' 2,292'			
	Preset f/ GL @ 2,740' MD				
Note: 11" surface hole will usually be drilled ±400' below the lost circulation zone (aka bird's nest). Drilled depth may be ±200' of the estimated set depth depending on the actual depth of the loss zone.					
	Wasatch @	4,962'			
Mud logging program TBD Cased hole logging program from TD - surf csg			7-7/8"	4-1/2" 11.6# HCP-110 or equivalent BTC/LTC csg	Water / Fresh Water Mud 8.3-12.0 ppg
	Mverde	8,223' TVD			
	MVU2 @	9,181' TVD			
	MVU1 @	9,722' TVD			
	Sego @	10,496' TVD			
	Castlegate @	10,546' TVD			
	MN5 @	10,898' TVD			
Max anticipated Mud required					
	TD @	11,498' TVD 11,498' MD			



KERR-McGEE OIL & GAS ONSHORE LP

DRILLING PROGRAM

CASING PROGRAM

CASING PROGRAM						DESIGN FACTORS			
						LTC		BTC	
	SIZE	INTERVAL		WT.	GR.	CPLG.	BURST	COLLAPSE	TENSION
CONDUCTOR	14"	0-40'							
							3,390	1,880	348,000
SURFACE	8-5/8"	0	to 2,740	28.00	IJ-55	LTC	1.97	1.47	5.18
							10,690	8,650	279,000
PRODUCTION	4-1/2"	0	to 11,498	11.60	HCP-110	LTC or BTC	1.19	1.11	2.61
									367,000
									3.43

Surface Casing:

(Burst Assumptions: TD = 13.0 ppg) 0.73 psi/ft = frac gradient @ surface shoe

Fracture at surface shoe with 0.1 psi/ft gas gradient above

(Collapse Assumption: Fully Evacuated Casing, Max MW)

(Tension Assumptions: Air Weight of Casing*Buoys.Fact. of water)

Production casing:

(Burst Assumptions: Pressure test with 8.4ppg @ 9000 psi) 0.66 psi/ft = bottomhole gradient

(Collapse Assumption: Fully Evacuated Casing, Max MW)

(Tension Assumptions: Air Weight of Casing*Buoys.Fact. of water)

CEMENT PROGRAM

		FT. OF FILL	DESCRIPTION	SACKS	EXCESS	WEIGHT	YIELD
SURFACE	LEAD	500'	Premium cmt + 2% CaCl	180	60%	15.80	1.15
			+ 0.25 pps flocele				
Option 1							
	TOP OUT CMT (6 jobs)	1,200'	20 gals sodium silicate + Premium cmt	270	0%	15.80	1.15
			+ 2% CaCl + 0.25 pps flocele				
SURFACE			NOTE: If well will circulate water to surface, option 2 will be utilized				
Option 2	LEAD	2,240'	65/35 Poz + 6% Gel + 10 pps gilsonite	210	35%	11.00	3.82
			+ 0.25 pps Flocele + 3% salt BWOW				
	TAIL	500'	Premium cmt + 2% CaCl	150	35%	15.80	1.15
			+ 0.25 pps flocele				
	TOP OUT CMT	as required	Premium cmt + 2% CaCl	as req.		15.80	1.15
PRODUCTION	LEAD	4,458'	Premium Lite II +0.25 pps	320	10%	11.00	3.38
			celloflake + 5 pps gilsonite + 10% gel				
			+ 0.5% extender				
	TAIL	7,040'	50/50 Poz/G + 10% salt + 2% gel	1,360	10%	14.30	1.31
			+ 0.1% R-3				

*Substitute caliper hole volume plus 0% excess for LEAD if accurate caliper is obtained

*Substitute caliper hole volume plus 10% excess for TAIL if accurate caliper is obtained

FLOAT EQUIPMENT & CENTRALIZERS

SURFACE	Guide shoe, 1 jt, insert float. Centralize first 3 joints with bow spring centralizers. Thread lock guide shoe
PRODUCTION	Float shoe, 1 jt, float collar. No centralizers will be used.

ADDITIONAL INFORMATION

Test casing head to 750 psi after installing. Test surface casing to 1,500 psi prior to drilling out.

BOPE: 11" 5M with one annular and 2 rams. The BOPE will be installed before the production hole is drilled and tested to 5,000 psi (annular to 2,500 psi) prior to drilling out the surface casing shoe. Record on chart recorder and tour sheet. Function test rams on each trip. Maintain safety valve and inside BOP on rig floor at all times. Most rigs have top drives; however, if used, the Kelly is to be equipped with upper and lower kelly valves.

Surveys will be taken at 1,000' minimum intervals.

Most rigs have PVT System for mud monitoring. If no PVT is available, visual monitoring will be utilized.

DRILLING ENGINEER:

Nick Spence / Emile Goodwin

DATE:**DRILLING SUPERINTENDENT:**

Kenny Gathings / Lovel Young

DATE:

STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		FORM 9			
SUNDRY NOTICES AND REPORTS ON WELLS Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		5. LEASE DESIGNATION AND SERIAL NUMBER: UTU-0579			
1. TYPE OF WELL Gas Well		6. IF INDIAN, ALLOTTEE OR TRIBE NAME: Ute			
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P.		7. UNIT or CA AGREEMENT NAME: NATURAL BUTTES			
3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		8. WELL NAME and NUMBER: NBU 920-24B			
4. LOCATION OF WELL FOOTAGES AT SURFACE: 0473 FNL 2377 FEL QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: NWNE Section: 24 Township: 09.0S Range: 20.0E Meridian: S		9. API NUMBER: 43047501130000			
10. FIELD and POOL or WILDCAT: NATURAL BUTTES		COUNTY: UINTAH			
11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA		STATE: UTAH			
TYPE OF SUBMISSION <input checked="" type="checkbox"/> NOTICE OF INTENT Approximate date work will start: 8/19/2011 <input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion: <input type="checkbox"/> SPUD REPORT Date of Spud: <input type="checkbox"/> DRILLING REPORT Report Date:	TYPE OF ACTION <table style="width: 100%; border: none;"> <tr> <td style="width: 33%; vertical-align: top;"> <input type="checkbox"/> ACIDIZE <input type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> DEEPEN <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PRODUCTION START OR RESUME <input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> WATER SHUTOFF <input type="checkbox"/> WILDCAT WELL DETERMINATION </td> <td style="width: 33%; vertical-align: top;"> <input type="checkbox"/> ALTER CASING <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> SI TA STATUS EXTENSION <input type="checkbox"/> OTHER </td> <td style="width: 33%; vertical-align: top;"> <input type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CONVERT WELL TYPE <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> PLUG BACK <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION <input type="checkbox"/> TEMPORARY ABANDON <input type="checkbox"/> WATER DISPOSAL <input checked="" type="checkbox"/> APD EXTENSION OTHER: </td> </tr> </table>		<input type="checkbox"/> ACIDIZE <input type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> DEEPEN <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PRODUCTION START OR RESUME <input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> WATER SHUTOFF <input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> ALTER CASING <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> SI TA STATUS EXTENSION <input type="checkbox"/> OTHER	<input type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CONVERT WELL TYPE <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> PLUG BACK <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION <input type="checkbox"/> TEMPORARY ABANDON <input type="checkbox"/> WATER DISPOSAL <input checked="" type="checkbox"/> APD EXTENSION OTHER:
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12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc. Kerr-McGee Oil & Gas Onshore, L.P. (Kerr-McGee) respectfully requests an extension to this APD for the maximum time allowed. Please contact the undersigned with any questions and/or comments. Thank you.					
<div style="text-align: center;"> Approved by the Utah Division of Oil, Gas and Mining </div> <div style="text-align: center;"> Date: 08/22/2011 By: </div>					
NAME (PLEASE PRINT) Gina Becker		PHONE NUMBER 720 929-6086			
SIGNATURE N/A		TITLE Regulatory Analyst II			
DATE 8/19/2011					



The Utah Division of Oil, Gas, and Mining

- State of Utah
- Department of Natural Resources

Electronic Permitting System - Sundry Notices

Request for Permit Extension Validation Well Number 43047501130000

API: 43047501130000

Well Name: NBU 920-24B

Location: 0473 FNL 2377 FEL QTR NWNE SEC 24 TWNP 090S RNG 200E MER S

Company Permit Issued to: KERR-MCGEE OIL & GAS ONSHORE, L.P.

Date Original Permit Issued: 9/18/2008

The undersigned as owner with legal rights to drill on the property as permitted above, hereby verifies that the information as submitted in the previously approved application to drill, remains valid and does not require revision. Following is a checklist of some items related to the application, which should be verified.

- If located on private land, has the ownership changed, if so, has the surface agreement been updated? ☐ Yes ☒ No
- Have any wells been drilled in the vicinity of the proposed well which would affect the spacing or siting requirements for this location? ☐ Yes ☒ No
- Has there been any unit or other agreements put in place that could affect the permitting or operation of this proposed well? ☐ Yes ☒ No
- Have there been any changes to the access route including ownership, or rightof- way, which could affect the proposed location? ☐ Yes ☒ No
- Has the approved source of water for drilling changed? ☐ Yes ☒ No
- Have there been any physical changes to the surface location or access route which will require a change in plans from what was discussed at the onsite evaluation? ☐ Yes ☒ No
- Is bonding still in place, which covers this proposed well? ☒ Yes ☐ No

Signature: Gina Becker

Date: 8/19/2011

Title: Regulatory Analyst II **Representing:** KERR-MCGEE OIL & GAS ONSHORE, L.P.

RECEIVED Aug. 19, 2011

STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		FORM 9
SUNDRY NOTICES AND REPORTS ON WELLS Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		5. LEASE DESIGNATION AND SERIAL NUMBER: UTU-0579
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PHONE NUMBER: 720 929-6515 Ext		9. FIELD and POOL or WILDCAT: NATURAL BUTTES
COUNTY: UINTAH		STATE: UTAH

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

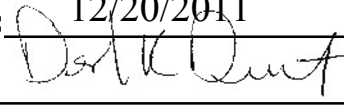
TYPE OF SUBMISSION	TYPE OF ACTION		
<input checked="" type="checkbox"/> NOTICE OF INTENT Approximate date work will start: 12/19/2011 <input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion: <input type="checkbox"/> SPUD REPORT Date of Spud: <input type="checkbox"/> DRILLING REPORT Report Date:	<input type="checkbox"/> ACIDIZE <input checked="" type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> DEEPEN <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PRODUCTION START OR RESUME <input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> WATER SHUTOFF <input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> ALTER CASING <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> SI TA STATUS EXTENSION <input type="checkbox"/> OTHER	<input type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CONVERT WELL TYPE <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> PLUG BACK <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION <input type="checkbox"/> TEMPORARY ABANDON <input type="checkbox"/> WATER DISPOSAL <input type="checkbox"/> APD EXTENSION OTHER:

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

The operator requests approval for changes in the drilling plan. Specifically, the Operator requests approval for a FIT waiver, closed loop drilling option, surface casing size change, and a production casing change. All other aspects of the previously approved drilling plan will not change. These proposals do not deviate from previously submitted and approved plans. Please see attachments. Thank you.

Accepted by the Utah Division of Oil, Gas and Mining

Date: 12/20/2011

By: 

NAME (PLEASE PRINT) Jaime Scharnowske	PHONE NUMBER 720 929-6304	TITLE Regulatory Analyst
SIGNATURE N/A	DATE 12/19/2011	

NBU 920-24B

Drilling Program
1 of 7**Kerr-McGee Oil & Gas Onshore. L.P.****NBU 920-24B**

Surface: 473 FNL / 2377 FEL NWNE

Section 24 T9S R20E

Unitah County, Utah
Mineral Lease: UTU-0579**ONSHORE ORDER NO. 1****DRILLING PROGRAM**

1. & 2. **Estimated Tops of Important Geologic Markers:**
Estimated Depths of Anticipated Water, Oil, Gas, or Mineral Formations:

<u>Formation</u>	<u>Depth</u>	<u>Resource</u>
Uinta	0 - Surface	
Green River	1,649'	
Birds Nest	1,901'	Water
Mahogany	2,292'	Water
Wasatch	4,962'	Gas
Mesaverde	8,223'	Gas
MVU2	9,181'	Gas
MVL1	9,722'	Gas
Sego	10,496'	Gas
Castlegate	10,546'	Gas
Blackhawk	10,898'	Gas
TVD	11,498'	
TD	11,498'	

3. **Pressure Control Equipment** (Schematic Attached)

Please refer to the attached Drilling Program

4. **Proposed Casing & Cementing Program:**

Please refer to the attached Drilling Program

5. **Drilling Fluids Program:**

Please refer to the attached Drilling Program

6. **Evaluation Program:**

Please refer to the attached Drilling Program

7. **Abnormal Conditions:**

Maximum anticipated bottom hole pressure calculated at 11498' TVD, approximately equals
7,589 psi (0.66 psi/ft = actual bottomhole gradient)

Maximum Anticipated Bottom Hole Pressure (MABHP) = Pore Pressure at TD

Maximum anticipated surface pressure equals approximately 5,112 psi (bottom hole pressure minus the pressure of a partially evacuated hole calculated at 0.22 psi/foot, per Onshore Order No. 2).

Per Onshore Order No. 2 - Max Anticipated Surf. Press.(MASP) = (Pore Pressure at next csg point-
(0.22 psi/ft-partial evac gradient x TVD of next csg point))

8. **Anticipated Starting Dates:**

Drilling is planned to commence immediately upon approval of this application.

9. **Variances:**

Please refer to the attached Drilling Program.
Onshore Order #2 – Air Drilling Variance

Kerr-McGee Oil & Gas Onshore LP (KMG) respectfully requests a variance to several requirements associated with air drilling outlined in Onshore Order 2

- Blowout Prevention Equipment (BOPE) requirements;
- Mud program requirements; and
- Special drilling operation (surface equipment placement) requirements associated with air drilling.

This Standard Operating Practices addendum provides supporting information as to why KMG current air drilling practices for constructing the surface casing hole should be granted a variance to Onshore Order 2 air drilling requirements.

The reader should note that the air rig is used only to construct a stable surface casing hole through a historically difficult lost circulation zone. A conventional rotary rig follows the air rig, and is used to drill and construct the majority of the wellbore.

More notable, KMG has used the air rig layout and procedures outlined below to drill the surface casing hole in approximately 675 wells without incident of blow out or loss of life.

Background

In a typical well, KMG utilizes an air rig for drilling the surface casing hole, an interval from the surface to surface casing depths, which varies in depth from 1,700 to 2,800 feet. The air rig drilling operation does not drill through productive or over pressured formations in KMG field, but does penetrate the Uinta and Green River Formations. The purpose of the air drilling operation is to overcome the severe loss circulation zone in the Green River known as the Bird's Nest while creating a stable hole for the surface casing. The surface casing hole is generally drilled to approximately 500 feet below the Bird's Nest.

Before the surface air rig is mobilized, a rathole rig is utilized to set and cement conductor pipe through a competent surface formation. Generally, the conductor is set at 40 feet. In some cases, conductor may be set deeper in areas that the surface formation is not found competent. This rig also drills the rat and mouse holes in preparation for the surface casing and production string drilling operations.

The air rig is then mobilized to drill the surface casing hole by drilling a 12 1/4 inch hole for the first 200 feet, then will drill a 11 inch hole to just above the Bird's Nest interval with an air hammer. The hammer is then tripped and replaced with a 11 inch tri-cone bit. The tri-cone bit is used to drill to the surface casing point, approximately 500 feet below the loss circulation zone (Bird's Nest). The 8-5/8 inch surface casing is then run and cemented in place, thereby isolating the lost circulation zone.

KMG fully appreciates Onshore Order 2 well control and safety requirements associated with a typical air drilling operations. However, the requirements of Onshore Order 2 are excessive with respect to the air rig layout and drilling operation procedures that are currently in practice to drill and control the surface casing hole in KMG Fields.

Variance for BOPE Requirements

The air rig operation utilizes a properly lubricated and maintained air bowl diverter system which diverts the drilling returns to a six-inch blooie line. The air bowl is the only piece of BOPE equipment which is installed during drilling operations and is sufficient to contain the air returns associated with this drilling operation. As was discussed earlier, the drilling of the surface hole does not encounter any over pressured or productive zones, and as a result standard BOPE equipment should not be required. In addition, standard drilling practices do not support the use of BOPE on 40 feet of conductor pipe.

Variance for Mud Material Requirements

Onshore Order 2 also states that sufficient quantities of mud materials shall be maintained or readily accessible for the purpose of assuring adequate well control. Once again, the surface hole drilling operations does not encounter over pressured or productive intervals, and as a result there is not a need to control pressure in the surface hole with a mud system. Instead of mud, the air rigs utilize water from the reserve pit for well control, if necessary. A skid pump which is located near the reserve pit (see attachment) will supply the water to the well bore.

Variance for Special Drilling Operation (surface equipment placement) Requirements

Onshore Order 2 requires specific safety distances or setbacks for the placement of associated standard air drilling equipment, wellbore, and reserve pits. The air rigs used to drill the surface holes are not typical of an air rig used to drill a producing hole in other parts of the US. These are smaller in nature and designed to fit a KMG location. The typical air rig layout for drilling surface hole in the field is attached.

Typically the blooie line discharge point is required to be 100 feet from the well bore. In the case of a KMG well, the reserve pit is only 45 feet from the rig and is used for the drill cuttings. The blooie line, which transports the drill cuttings from the well to the reserve pit, subsequently discharges only 45 feet from the well bore.

Typically the air rig compressors are required to be located in the opposite direction from the blooie line and a minimum of 100 feet from the well bore. At the KMG locations, the air rig compressors are approximately 40 feet from the well bore and approximately 60 feet from the blooie line discharge due to the unique air rig design. The air compressors (see attachment) are located on the rig (1250 cfm) and on a standby trailer (1170 cfm). A booster sits between the two compressors and boosts the output from 350 psi to 2000 psi. The design does put the booster and standby compressor opposite from the blooie line.

Lastly, Onshore Order 2 addresses the need for an automatic igniter or continuous pilot light on the blooie line. The air rig does not utilize an igniter as the surface hole drilling operation does not encounter productive formations.

Variance for FIT Requirements

KMG also respectfully requests a variance to Onshore Order 2, Section III, Part Bi, for the pressure integrity test (PIT, also known as a formation integrity test (FIT)). This well is not an exploratory well and is being drilled in an area where the formation integrity is well known. Additionally, when an FIT is run with the mud weight as required, the casing shoe frequently breaks down and causes subsequent lost circulation when drilling the entire depth of the well.

Conclusion

The air rig operating procedures and the attached air rig layout have effectively maintained well control while drilling the surface holes in KMG Fields. KMG respectfully requests a variance from Onshore Order 2 with respect to air drilling well control requirements as discussed above.

10. Other Information:

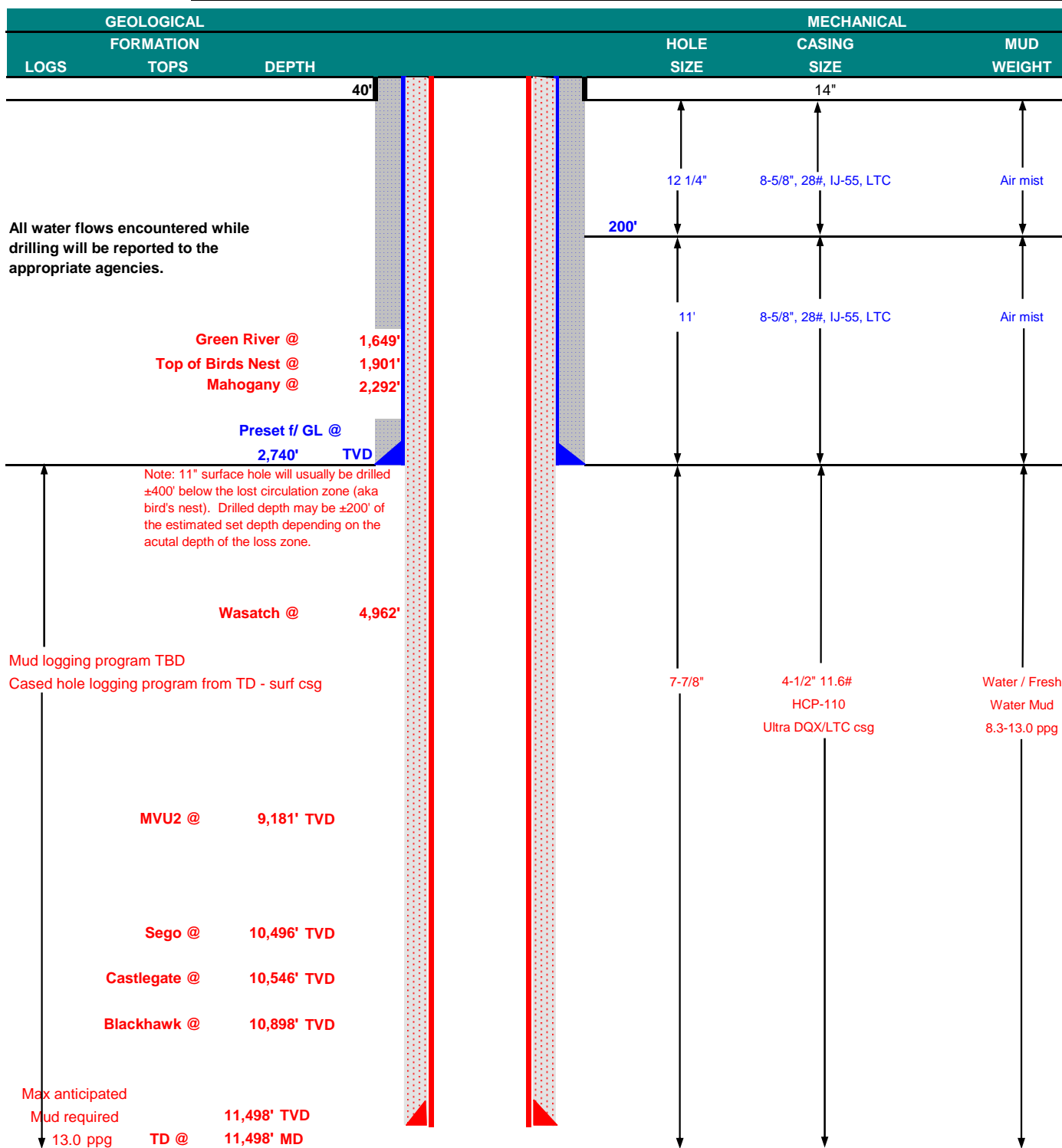
Please refer to the attached Drilling Program.

NBU 920-24B

Drilling Program
5 of 7

KERR-McGEE OIL & GAS ONSHORE LP DRILLING PROGRAM

COMPANY NAME	KERR-McGEE OIL & GAS ONSHORE LP	DATE	December 19, 2011	
WELL NAME	NBU 920-24B	TD	11,498'	11,498' MD
FIELD	Natural Buttes	COUNTY	Uintah	STATE Utah
SURFACE LOCATION	NWNE	473 FNL	2377 FEL	Sec 24 T 9S R 20E
	Latitude: 40.027020	Longitude: -109.614000	NAD 83	
OBJECTIVE ZONE(S)	BLACKHAWK (Part of the Mesaverde Group)			
ADDITIONAL INFO	Regulatory Agencies: BLM (Minerals), BLM (Surface), UDOGM Tri-County Health Dept.			


RECEIVED Dec. 19, 2011

NBU 920-24B

Drilling Program
6 of 7

KERR-McGEE OIL & GAS ONSHORE LP

DRILLING PROGRAM

CASING PROGRAM

						DESIGN FACTORS			
						LTC		DQX	
	SIZE	INTERVAL		WT.	GR.	CPLG.	BURST	COLLAPSE	TENSION
CONDUCTOR	14"	0-40'							
							3,390	1,880	348,000
SURFACE	8-5/8"	0	to 2,740	28.00	IJ-55	LTC	1.96	1.47	5.18
							10,690	8,650	279,000
PRODUCTION	4-1/2"	0	to 5,000	11.60	HCP-110	DQX	1.19	1.11	3.43
	4-1/2"	5,000	to 11,498'	11.60	HCP-110	LTC	1.19	1.11	4.62

Surface Casing:

(Burst Assumptions: TD = 13.0 ppg)

0.73 psi/ft = frac gradient @ surface shoe

Fracture at surface shoe with 0.1 psi/ft gas gradient above

(Collapse Assumption: Fully Evacuated Casing, Max MW)

(Tension Assumptions: Air Weight of Casing*Buoy.Fact. of water)

Production casing:

(Burst Assumptions: Pressure test with 8.4ppg @ 9000 psi)

0.66 psi/ft = bottomhole gradient

(Collapse Assumption: Fully Evacuated Casing, Max MW)

(Tension Assumptions: Air Weight of Casing*Buoy.Fact. of water)

CEMENT PROGRAM

		FT. OF FILL	DESCRIPTION	SACKS	EXCESS	WEIGHT	YIELD
SURFACE	LEAD	500'	Premium cmt + 2% CaCl	180	60%	15.80	1.15
Option 1			+ 0.25 pps flocele				
	TOP OUT CMT (6 jobs)	1,200'	20 gals sodium silicate + Premium cmt	270	0%	15.80	1.15
			+ 2% CaCl + 0.25 pps flocele				
SURFACE		NOTE: If well will circulate water to surface, option 2 will be utilized					
Option 2	LEAD	2,240'	65/35 Poz + 6% Gel + 10 pps gilsonite	210	35%	11.00	3.82
			+ 0.25 pps Flocele + 3% salt BWOW				
	TAIL	500'	Premium cmt + 2% CaCl	150	35%	15.80	1.15
			+ 0.25 pps flocele				
	TOP OUT CMT	as required	Premium cmt + 2% CaCl	as req.		15.80	1.15
PRODUCTION	LEAD	4,458'	Premium Lite II +0.25 pps	350	35%	12.00	3.38
			celloflake + 5 pps gilsonite + 10% gel				
			+ 0.5% extender				
	TAIL	7,040'	50/50 Poz/G + 10% salt + 2% gel	1,660	35%	14.30	1.31
			+ 0.1% R-3				

*Substitute caliper hole volume plus 0% excess for LEAD if accurate caliper is obtained

*Substitute caliper hole volume plus 10% excess for TAIL if accurate caliper is obtained

FLOAT EQUIPMENT & CENTRALIZERS

SURFACE	Guide shoe, 1 jt, insert float. Centralize first 3 joints with bow spring centralizers. Thread lock guide shoe
PRODUCTION	Float shoe, 1 jt, float collar. 15 centralizers for a Mesaverde and 20 for a Blackhawk well. 1 centralizer on the first 3 joints and one every third joint thereafter.

ADDITIONAL INFORMATION

Test casing head to 750 psi after installing. Test surface casing to 1,500 psi prior to drilling out.

BOPE: 11" 5M with one annular and 2 rams. The BOPE will be installed before the production hole is drilled and tested to 5,000 psi (annular to 2,500 psi) prior to drilling out the surface casing shoe. Record on chart recorder and tour sheet. Function test rams on each trip. Maintain safety valve and inside BOP on rig floor at all times. Most rigs have top drives; however, if used, the Kelly is to be equipped with upper and lower kelly valves.

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Most rigs have PVT System for mud monitoring. If no PVT is available, visual monitoring will be utilized.

DRILLING ENGINEER:

Nick Spence / Danny Showers / Chad Loesel

DATE:

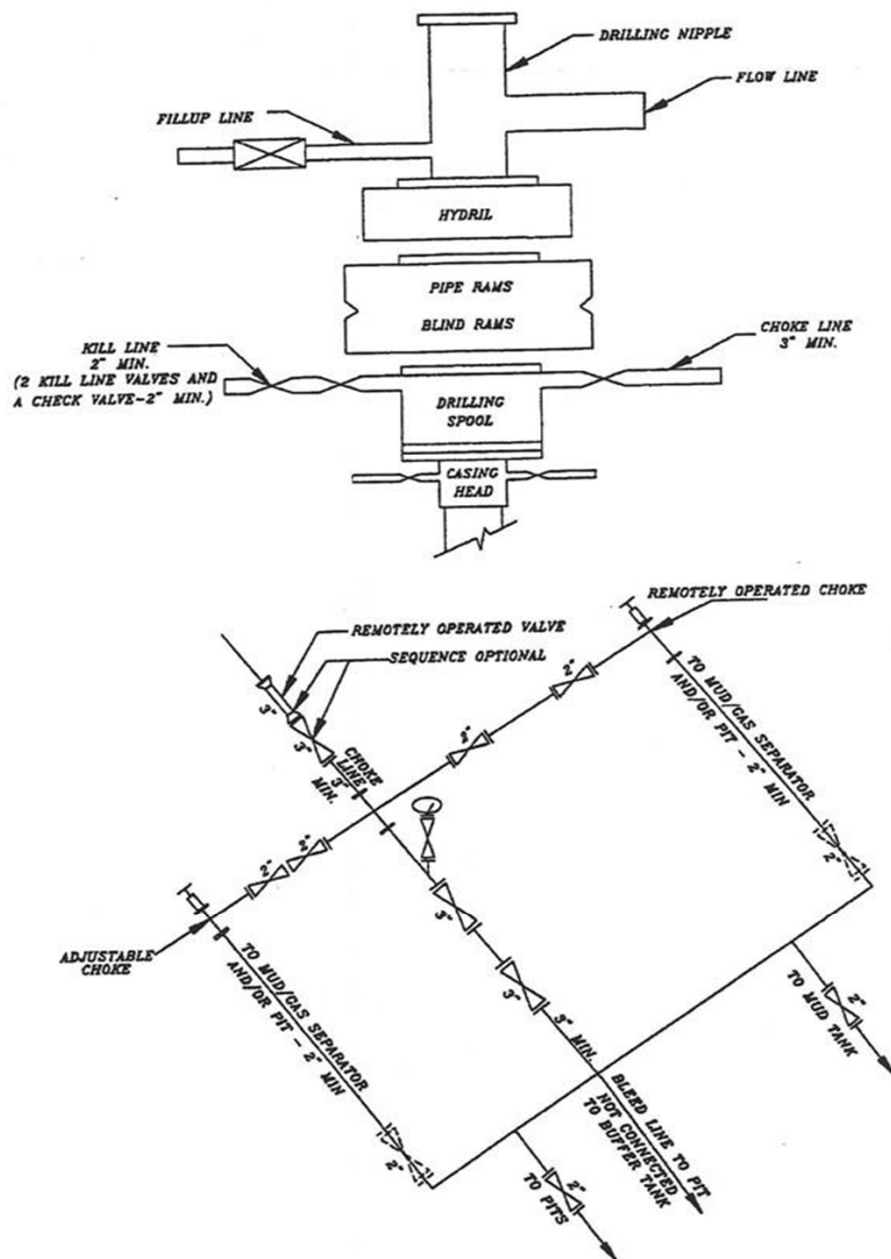
DRILLING SUPERINTENDENT:

Kenny Gathings / Lovel Young

DATE:

RECEIVED Dec. 19, 2011

NBU 920-24B

Drilling Program
7 of 7**EXHIBIT A**
NBU 920-24B**SCHEMATIC DIAGRAM OF 5,000 PSI BOP STACK**

Requested Drilling Options:

Kerr-McGee will use either a closed loop drilling system that will require one pit and one cuttings storage area to be constructed on the drilling pad or a traditional drilling operation with one pit used for drilling and completion operations. The cuttings storage area will be used to contain only the de-watered drill cuttings and will be lined and bermed to prevent any liquid runoff. The drill cuttings will be buried in the completion pit once completion operations are completed according to traditional pit closure standards. The pit will be constructed to allow for completion operations. The completion operations pit will be lined with a synthetic material 20 mil or thicker and will be used for the completing of the wells on the pad or used as part of our Aandarko Completions Transportation System (ACTS). Using the closed loop drilling system will allow Kerr-McGee to decrease the amount of disturbance/footprint on location compared to a single large drilling/completions pit.

If Kerr-McGee does not use a closed loop drilling system, it will construct a traditional drilling/completions pit to contain drill cuttings and for use in completion operations. The pit will be lined with a synthetic material 20 mil or thicker. The drill cuttings will be buried in the pit using traditional pit closure standards.

STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		FORM 9
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2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P.		7. UNIT or CA AGREEMENT NAME: NATURAL BUTTES
3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		8. WELL NAME and NUMBER: NBU 920-24B
4. LOCATION OF WELL FOOTAGES AT SURFACE: 0473 FNL 2377 FEL QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: NWNE Section: 24 Township: 09.0S Range: 20.0E Meridian: S		9. API NUMBER: 43047501130000
PHONE NUMBER: 720 929-6511		9. FIELD and POOL or WILDCAT: NATURAL BUTTES
COUNTY: UINTAH		STATE: UTAH
11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA		
TYPE OF SUBMISSION	TYPE OF ACTION	
<input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:	<input type="checkbox"/> ACIDIZE	
<input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion:	<input type="checkbox"/> ALTER CASING	
<input checked="" type="checkbox"/> SPUD REPORT Date of Spud: 1/17/2012	<input type="checkbox"/> CASING REPAIR	
<input type="checkbox"/> DRILLING REPORT Report Date:	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	
	<input type="checkbox"/> CHANGE WELL STATUS	
	<input type="checkbox"/> CHANGE WELL NAME	
	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	
	<input type="checkbox"/> CONVERT WELL TYPE	
	<input type="checkbox"/> DEEPEN	
	<input type="checkbox"/> FRACTURE TREAT	
	<input type="checkbox"/> NEW CONSTRUCTION	
	<input type="checkbox"/> OPERATOR CHANGE	
	<input type="checkbox"/> PLUG AND ABANDON	
	<input type="checkbox"/> PLUG BACK	
	<input type="checkbox"/> PRODUCTION START OR RESUME	
	<input type="checkbox"/> RECLAMATION OF WELL SITE	
	<input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION	
	<input type="checkbox"/> REPERFORATE CURRENT FORMATION	
	<input type="checkbox"/> SIDETRACK TO REPAIR WELL	
	<input type="checkbox"/> TEMPORARY ABANDON	
	<input type="checkbox"/> TUBING REPAIR	
	<input type="checkbox"/> VENT OR FLARE	
	<input type="checkbox"/> WATER DISPOSAL	
	<input type="checkbox"/> WATER SHUTOFF	
	<input type="checkbox"/> SI TA STATUS EXTENSION	
	<input type="checkbox"/> WILDCAT WELL DETERMINATION	
	<input type="checkbox"/> OTHER: <input style="width: 100px;" type="text"/>	
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc. MIRU TRIPPLE A BUCKET RIG. DRILLED 20" CONDUCTOR HOLE TO 40'. RAN 14" 36.7# SCHEDULE 10 PIPE. CMT W/28 SX READY MIX. SPUD WELL ON 01/17/2012 AT 1130 HRS.		
Accepted by the Utah Division of Oil, Gas and Mining FOR RECORD ONLY January 23, 2012		
NAME (PLEASE PRINT) Sheila Wopsock	PHONE NUMBER 435 781-7024	TITLE Regulatory Analyst
SIGNATURE N/A	DATE 1/18/2012	

SUBMIT AS EMAIL

Print Form

BLM - Vernal Field Office - Notification Form

Operator KERR-McGEE OIL & GAS Rig Name/ # BUCKET RIG
Submitted By SHEILA WOPSOCK Phone Number 435.781.7024
Well Name/Number NBU 920-24B
Qtr/Qtr NW/NE Section 24 Township 9S Range 20E
Lease Serial Number UTU-0579
API Number 4304750113

Spud Notice – Spud is the initial spudding of the well, not drilling out below a casing string.

Date/Time 01/17/2012 0700 HRS AM ☒ PM ☐

Casing – Please report time casing run starts, not cementing times.

- ☒ Surface Casing
☐ Intermediate Casing
☐ Production Casing
☐ Liner
☐ Other

Date/Time 01/22/2012 0800 HRS AM ☒ PM ☐

BOPE

- ☐ Initial BOPE test at surface casing point
☐ BOPE test at intermediate casing point
☐ 30 day BOPE test
☐ Other

Date/Time _____ AM ☐ PM ☐

Remarks ESTIMATED DATE AND TIME. PLEASE CONTACT
LOVEL YOUNG AT 435.781.7051 FOR MORE

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DIV. OF OIL, GAS & MINING

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

FORM 6

ENTITY ACTION FORM

Operator: KERR McGEE OIL & GAS ONSHORE LP Operator Account Number: N 2995
Address: 1368 SOUTH 1200 EAST
city VERNAL
state UT zip 84078 Phone Number: (435) 781-7024

Well 1

API Number	Well Name		QQ	Sec	Twp	Rng	County
4304750161	NBU 920-24AT		NENE	24	9S	20E	UINTAH
Action Code	Current Entity Number	New Entity Number	Spud Date		Entity Assignment Effective Date		
A	99999	2900	1/18/2012		1/31/12		
Comments: MIRU TRIPPLE A BUCKET RIG. WSMVD SPUD WELL ON 01/18/2012 AT 0730 HRS.							

Well 2

API Number	Well Name		QQ	Sec	Twp	Rng	County
4304750113	NBU 920-24B		NWNE	24	9S	20E	UINTAH
Action Code	Current Entity Number	New Entity Number	Spud Date		Entity Assignment Effective Date		
A	99999	2900	1/17/2012		1/31/12		
Comments: MIRU TRIPPLE A BUCKET RIG. WSMVD SPUD WELL ON 01/17/2012 AT 1130 HRS.							

Well 3

API Number	Well Name		QQ	Sec	Twp	Rng	County
Action Code	Current Entity Number	New Entity Number	Spud Date		Entity Assignment Effective Date		
Comments:							

ACTION CODES:

- A - Establish new entity for new well (single well only)
- B - Add new well to existing entity (group or unit well)
- C - Re-assign well from one existing entity to another existing entity
- D - Re-assign well from one existing entity to a new entity
- E - Other (Explain in 'comments' section)

SHEILA WOPSOCK

Name (Please Print)

Signature

REGULATORY ANALYST

Title

1/18/2012

Date

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JAN 18 2012

DIV. OF OIL, GAS & MINING

STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		FORM 9
SUNDRY NOTICES AND REPORTS ON WELLS Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		5. LEASE DESIGNATION AND SERIAL NUMBER: UTU-0579
1. TYPE OF WELL Gas Well		6. IF INDIAN, ALLOTTEE OR TRIBE NAME: Ute
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P.		7. UNIT or CA AGREEMENT NAME: NATURAL BUTTES
3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		8. WELL NAME and NUMBER: NBU 920-24B
4. LOCATION OF WELL FOOTAGES AT SURFACE: 0473 FNL 2377 FEL QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: NWNE Section: 24 Township: 09.0S Range: 20.0E Meridian: S		9. API NUMBER: 43047501130000
PHONE NUMBER: 720 929-6511		9. FIELD and POOL or WILDCAT: NATURAL BUTTES
COUNTY: UINTAH		STATE: UTAH
11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA		
TYPE OF SUBMISSION	TYPE OF ACTION	
<input type="checkbox"/> NOTICE OF INTENT Approximate date work will start: <input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion: <input type="checkbox"/> SPUD REPORT Date of Spud: <input checked="" type="checkbox"/> DRILLING REPORT Report Date: 2/11/2012	<div style="display: flex; flex-wrap: wrap;"> <div style="width: 33%;"> <input type="checkbox"/> ACIDIZE <input type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> DEEPEN <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PRODUCTION START OR RESUME <input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> WATER SHUTOFF <input type="checkbox"/> WILDCAT WELL DETERMINATION </div> <div style="width: 33%;"> <input type="checkbox"/> ALTER CASING <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> SI TA STATUS EXTENSION <input type="checkbox"/> OTHER </div> <div style="width: 33%;"> <input type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CONVERT WELL TYPE <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> PLUG BACK <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION <input type="checkbox"/> TEMPORARY ABANDON <input type="checkbox"/> WATER DISPOSAL <input type="checkbox"/> APD EXTENSION </div> </div> OTHER: <input style="width: 100px;" type="text"/>	
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc. MIRU AIR RIG ON FEBRUARY 8, 2012. DRILLED SURFACE HOLE TO 2860'. RAN SURFACE CASING AND CEMENTED. WELL IS WAITING ON ROTARY RIG. DETAILS OF CEMENT JOB WILL BE INCLUDED WITH WELL COMPLETION REPORT.		
NAME (PLEASE PRINT) Jaime Scharnowske		PHONE NUMBER 720 929-6304
SIGNATURE N/A		TITLE Regularatory Analyst
DATE 2/13/2012		Accepted by the Utah Division of Oil, Gas and Mining FOR RECORD ONLY February 13, 2012

STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		FORM 9
SUNDRY NOTICES AND REPORTS ON WELLS Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		5. LEASE DESIGNATION AND SERIAL NUMBER: UTU-0579
1. TYPE OF WELL Gas Well		6. IF INDIAN, ALLOTTEE OR TRIBE NAME: Ute
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P.		7. UNIT or CA AGREEMENT NAME: NATURAL BUTTES
3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		8. WELL NAME and NUMBER: NBU 920-24B
4. LOCATION OF WELL FOOTAGES AT SURFACE: 0473 FNL 2377 FEL QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: NWNE Section: 24 Township: 09.0S Range: 20.0E Meridian: S		9. API NUMBER: 43047501130000
5. FIELD and POOL or WILDCAT: NATURAL BUTTES		6. IF INDIAN, ALLOTTEE OR TRIBE NAME: Ute
7. UNIT or CA AGREEMENT NAME: NATURAL BUTTES		8. WELL NAME and NUMBER: NBU 920-24B
9. API NUMBER: 43047501130000		10. FIELD and POOL or WILDCAT: NATURAL BUTTES
11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA		COUNTY: UTAH
STATE: UTAH		12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc. MIRU ROTARY RIG. FINISHED DRILLING FROM 2860' TO 11,490' ON FEBRUARY 26, 2012. RAN 4-1/2" 11.6# P-110 PRODUCTION CASING. CEMENTED PRODUCTION CASING. RELEASED PIONEER 54 RIG ON FEBRUARY 28, 2012 @ 00:00 HRS. DETAILS OF CEMENT JOB WILL BE INCLUDED WITH THE WELL COMPLETION REPORT. WELL IS WAITING ON FINAL COMPLETION ACTIVITIES.
13. NAME (PLEASE PRINT) Jaime Scharnowske		14. PHONE NUMBER 720 929-6304
15. SIGNATURE N/A		16. DATE 3/4/2012

State of Utah - Notification Form

Operator Anadarko Petroleum Rig Name/# PIONEER 54
Submitted By KALIB FORD Phone Number 435-790-2921
Well Name/Number NBU 920-24B
Qtr/Qtr NE/4 NW/4 Section 24 Township 9S Range 20E
Lease Serial Number UTU0579
API Number 4304750113

Casing – Time casing run starts, not cementing times.

- ☐ Production Casing
☐ Other

Date/Time _____ AM ☐ PM ☐

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FEB 19 2012

DIV. OF OIL, GAS & MINING

BOPE

- ☒ Initial BOPE test at surface casing point
☐ Other

Date/Time 2/19/12 12 AM ☐ PM ☒

Rig Move

Location To: _____

Date/Time _ _____ AM ☐ PM ☐

RECEIVED

FEB 19 2012

Remarks

State of Utah - Notification Form

Operator Anadarko Petroleum Rig Name/# PIONEER 54
Submitted By KALIB FORD Phone Number 435-790-2921
Well Name/Number NBU 920-24B
Qtr/Qtr NE/4 NW/4 Section 24 Township 9S Range 20E
Lease Serial Number UTU0579
API Number 4304750113

Casing – Time casing run starts, not cementing times.

☒ Production Casing
☐ Other

Date/Time 2/28/2012 6 AM ☒ PM ☐

BOPE

☐ Initial BOPE test at surface casing point
☐ Other

Date/Time _ _ AM ☐ PM ☐

RECEIVED

FEB 28 2012

DIV. OF OIL, GAS & MINING

Rig Move

Location To: _____

Date/Time _ _ AM ☐ PM ☐

Remarks

STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		FORM 9
SUNDRY NOTICES AND REPORTS ON WELLS Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		5. LEASE DESIGNATION AND SERIAL NUMBER: UTU-0579
1. TYPE OF WELL Gas Well		6. IF INDIAN, ALLOTTEE OR TRIBE NAME: Ute
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P.		7. UNIT or CA AGREEMENT NAME: NATURAL BUTTES
3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		8. WELL NAME and NUMBER: NBU 920-24B
4. LOCATION OF WELL FOOTAGES AT SURFACE: 0473 FNL 2377 FEL QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: NWNE Section: 24 Township: 09.0S Range: 20.0E Meridian: S		9. API NUMBER: 43047501130000
PHONE NUMBER: 720 929-6511		9. FIELD and POOL or WILDCAT: NATURAL BUTTES
COUNTY: UINTAH		STATE: UTAH
11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA		
TYPE OF SUBMISSION	TYPE OF ACTION	
<input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:	<input type="checkbox"/> ACIDIZE	
<input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion:	<input type="checkbox"/> ALTER CASING	
<input type="checkbox"/> SPUD REPORT Date of Spud:	<input type="checkbox"/> CASING REPAIR	
<input checked="" type="checkbox"/> DRILLING REPORT Report Date: 3/21/2012	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	
	<input type="checkbox"/> CHANGE WELL STATUS	
	<input type="checkbox"/> CHANGE WELL NAME	
	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	
	<input type="checkbox"/> CONVERT WELL TYPE	
	<input type="checkbox"/> DEEPEN	
	<input type="checkbox"/> FRACTURE TREAT	
	<input type="checkbox"/> NEW CONSTRUCTION	
	<input type="checkbox"/> OPERATOR CHANGE	
	<input type="checkbox"/> PLUG AND ABANDON	
	<input type="checkbox"/> PLUG BACK	
	<input checked="" type="checkbox"/> PRODUCTION START OR RESUME	
	<input type="checkbox"/> RECLAMATION OF WELL SITE	
	<input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION	
	<input type="checkbox"/> REPERFORATE CURRENT FORMATION	
	<input type="checkbox"/> SIDETRACK TO REPAIR WELL	
	<input type="checkbox"/> TEMPORARY ABANDON	
	<input type="checkbox"/> TUBING REPAIR	
	<input type="checkbox"/> VENT OR FLARE	
	<input type="checkbox"/> WATER DISPOSAL	
	<input type="checkbox"/> WATER SHUTOFF	
	<input type="checkbox"/> SI TA STATUS EXTENSION	
	<input type="checkbox"/> WILDCAT WELL DETERMINATION	
	<input type="checkbox"/> OTHER: <input style="width: 100px;" type="text"/>	
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc. THE SUBJECT WELL WAS PLACED ON PRODUCTION ON MARCH 21, 2012 AT 2:00 P.M. THE CHRONOLOGICAL WELL HISTORY WILL BE SUBMITTED WITH THE WELL COMPLETION REPORT.		
Accepted by the Utah Division of Oil, Gas and Mining FOR RECORD ONLY April 02, 2012		
NAME (PLEASE PRINT) Jaime Scharnowske	PHONE NUMBER 720 929-6304	TITLE Regularatory Analyst
SIGNATURE N/A	DATE 4/2/2012	

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB No. 1004-0137
Expires: July 31, 2010

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

5. Lease Serial No.
UTU0579

1a. Type of Well ☐ Oil Well ☒ Gas Well ☐ Dry ☐ Other
b. Type of Completion ☒ New Well ☐ Work Over ☐ Deepen ☐ Plug Back ☐ Diff. Resvr.
Other _____

6. If Indian, Allottee or Tribe Name

7. Unit or CA Agreement Name and No.
UTU63047A

2. Name of Operator
KERR MCGEE OIL & GAS ONSHORE Mail: cara.mahler@anadarko.com

Contact: CARA MAHLER

8. Lease Name and Well No.
NBU 920-24B

3. Address 1099 18TH STREET, SUITE 1800
DENVER, CO 80202

3a. Phone No. (include area code)
Ph: 720-929-6029

9. API Well No.
43-047-50113

4. Location of Well (Report location clearly and in accordance with Federal requirements)*

At surface NWNE 473FNL 2377FEL 40.027020 N Lat, 109.614000 W Lon

At top prod interval reported below NWNE 473FNL 2377FEL 40.027020 N Lat, 109.614000 W Lon

At total depth NWNE 473FNL 2377FEL 40.027020 N Lat, 109.614000 W Lon

10. Field and Pool, or Exploratory
NATURAL BUTTES

11. Sec., T., R., M., or Block and Survey
or Area Sec 24 T9S R20E Mer SLB

12. County or Parish
UINTAH

13. State
UT

14. Date Spudded
01/17/2012

15. Date T.D. Reached
02/26/2012

16. Date Completed
☐ D & A ☒ Ready to Prod.
03/21/2012

17. Elevations (DF, KB, RT, GL)*
4750 GL

18. Total Depth: MD 11490
TVD 11486

19. Plug Back T.D.: MD 11476
TVD 11472

20. Depth Bridge Plug Set: MD
TVD

21. Type Electric & Other Mechanical Logs Run (Submit copy of each)
HDIL/ZDL/CNGR-CBL/CM/GR/CCL

22. Was well cored? ☒ No ☐ Yes (Submit analysis)
Was DST run? ☒ No ☐ Yes (Submit analysis)
Directional Survey? ☒ No ☐ Yes (Submit analysis)

23. Casing and Liner Record (Report all strings set in well)

Hole Size	Size/Grade	Wt. (#/ft.)	Top (MD)	Bottom (MD)	Stage Cementer Depth	No. of Sk. & Type of Cement	Slurry Vol. (BBL)	Cement Top*	Amount Pulled
20.000	14.000 STL	36.7	0	40		28			
11.000	8.625 IJ-55	28.0	0	2853		595		0	
7.875	4.500 I-80	11.6	0	11478		2315		300	

24. Tubing Record

Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)
2.375	10963							

25. Producing Intervals

26. Perforation Record

Formation	Top	Bottom	Perforated Interval	Size	No. Holes	Perf. Status
A) MESAVERDE	8490	11236	8490 TO 11236	0.360	192	OPEN
B)						
C)						
D)						

27. Acid, Fracture, Treatment, Cement Squeeze, Etc.

Depth Interval	Amount and Type of Material
8490 TO 11236	PUMP 17,292 BBLs SLICK H2O & 305,187 LBS 40/70 PRIME; 92,770 30/50 OTTAWA SAND

28. Production - Interval A

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
03/21/2012	03/31/2012	24	→	0.0	3329.0	504.0			FLows FROM WELL
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status	
20/64	2764	3686.0	→	0	3329	504		PGW	

28a. Production - Interval B

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
			→						
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status	
			→						

RECEIVED

MAY 15 2012

(See Instructions and spaces for additional data on reverse side)

ELECTRONIC SUBMISSION #137395 VERIFIED BY THE BLM WELL INFORMATION SYSTEM

** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED **

DIV. OF OIL, GAS & MINING

28b. Production - Interval C

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
			→						
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status	
			→						

28c. Production - Interval D

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
			→						
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status	
			→						

29. Disposition of Gas(Sold, used for fuel, vented, etc.)
SOLD

30. Summary of Porous Zones (Include Aquifers):

Show all important zones of porosity and contents thereof: Cored intervals and all drill-stem tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures and recoveries.

31. Formation (Log) Markers

Formation	Top	Bottom	Descriptions, Contents, etc.	Name	Top Meas. Depth
				GREEN RIVER BIRD'S NEST MAHOGANY WASATCH MESAVERDE	1716 1878 2368 5039 8316

32. Additional remarks (include plugging procedure):

The first 210' of the surface hole was drilled with a 12 ?? bit. The remainder of surface hole was drilled with an 11? bit. DQX csg was run from surface to 5242?; LTC csg was run from 5242? to 11,478?. Attached is the chronological well history, perforation report & final survey.

33. Circle enclosed attachments:

- | | | | |
|---|--------------------|---------------|-----------------------|
| 1. Electrical/Mechanical Logs (1 full set req'd.) | 2. Geologic Report | 3. DST Report | 4. Directional Survey |
| 5. Sundry Notice for plugging and cement verification | 6. Core Analysis | 7. Other: | |

34. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records (see attached instructions):

Electronic Submission #137395 Verified by the BLM Well Information System.
For KERR MCGEE OIL & GAS ONSHORE L, sent to the Vernal

Name (please print) CARA MAHLER Title AUTHORIZED REPRESENTATIVE

Signature (Electronic Submission) Date 05/10/2012

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

**** ORIGINAL ** ORIGINAL ** ORIGINAL ** ORIGINAL ** ORIGINAL ** ORIGINAL ** ORIGINAL ****

US ROCKIES REGION
Operation Summary Report

Well: NBU 920-24B				Spud Date: 2/8/2012					
Project: UTAH-UINTAH			Site: NBU 920-24B				Rig Name No: PROPETRO 10/10, PIONEER 54/54		
Event: DRILLING			Start Date: 1/24/2012					End Date: 2/29/2012	
Active Datum: RKB @4,769.01ft (above Mean Sea Level)				UWI: NW/NE/0/9/S/20/E/24/0/0/26/PM/N/473/E/0/2377/0/0					
Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation	
2/8/2012	8:00 - 10:00	2.00	MIRU	01	E	P		PREP RIG IN VERNAL YARD FOR MOB	
	10:00 - 20:30	10.50	MIRU	01	A	P		MOVE PRO PETRO 10 FROM VERNAL YARD TO NBU 920-24B RIG UP CAMPS, RIG, MUD PUMP, DIESEL TANK, AND ALL MISC. RIG EQUIPMENT. RIG UP FLOW LINE AND AIR BOWL.	
	20:30 - 22:30	2.00	MIRU	01	B	P		STRAP BHA PICK UP MUD MOTOR AND MAKE UP 12.25" BIT TIGHTEN KELLY HOSE AND PREPARE TO SPUD	
	22:30 - 0:00	1.50	DRLSUR	02	C	P		SPUD 12.25" HOLE DRILL F/ 40' - 210' WOB 12-30 ROT 50-60	
2/9/2012	0:00 - 3:00	3.00	DRLSUR	06	A	P		TOOH PICK UP DIRECTIONAL TOOLS AND 11" BIT INSTALL MWD TOOLS AND ORIENT TO MUD MOTOR TIH	
	3:00 - 9:30	6.50	DRLSUR	08	A	Z		WASH PIPE PACKING HOUSING LEAKING FROM TOP OF TOP DRIVE WAIT ON PARTS FROM TOWN TAP OUT BOLT HOLES AND INSTALL LARGER BOLTS TIGHTEN DOWN AND PRESSURE TEST	
	9:30 - 22:30	13.00	DRLSUR	02	C	P		DRILL 11" HOLE F/ 210' - 1840' WOB 18-20 ROT 65-75 AVE ROP 125 FT HR NO LOSSES GPM 509 DHR 94 LAST SURVEY 1.93 DEG 43.21 AZI	
	22:30 - 0:00	1.50	DRLSUR	10	D	Z		LOST MWD SIGNAL TOOH TO LAST SURVEY POINT AND TURN MWD FREQ. UP	
2/10/2012	0:00 - 11:30	11.50	DRLSUR	02	C	P		DRILL 11" HOLE F/ 1840' - 2860' T.D. WOB 18-20 DHR 90 ROT 50-60 GPM 504 MIXING POLY SWEEPS NO LOSSES LAST SURVEY .44 DEG 32.23 AZI	
	11:30 - 14:00	2.50	DRLSUR	05	C	P		PUMP POLY SWEEP AND CIRCULATE AND CONDITION MUD PRIOR TO LDDS	
	14:00 - 19:00	5.00	DRLSUR	06	A	P		TOOH LAYING DOWN DRILL STRING L/D DIRECTIONAL TOOLS MWD TOOL AND BIT AND MUD MOTOR	
	19:00 - 20:00	1.00	DRLSUR	12	A	P		RIG UP TO RUN CASING	
	20:00 - 23:30	3.50	DRLSUR	12	C	P		RUN 64 JOINTS 8.625 28# J55 SURFACE CASING SHOE AT 2832' NO PROBLEMS	
2/11/2012	23:30 - 0:00	0.50	DRLSUR	12	B	P		RUN 150' OF 1" PIPE LAND CASING AND LAY DERRICK OVER.	
	0:00 - 3:00	3.00	DRLSUR	12	E	P		RIG UP PRESSURE TEST LINES TO 3000 PSI PUMP 20 BBLS GEL SPACER PUMP 220 SX 150 BBLS 11LEAD PPG 3.82 YIELD 2% CaCl PREMIUM CEMENT PUMP 275 SX 56 BBLS TAIL CMNT 15.8 PPG 1.15 YIELD DROP PLUG ON FLY DISPLACE WITH 174 BBLS H2O FLOATS HELD FINAL LIFT PRESSURE 600 PSI FULL RETURNS THROUGH JOB 5 BBLS CMT TO SURFACE. RIG UP AND PUMP 100 SX 20 BBLS TAIL CMNT 15.8 PPG 1.15 YIELD CEMENT TO SURFACE	
								RELEASE RIG @ 03:00 2-11-12	
								RDRT	
2/15/2012	18:00 - 0:00	6.00	DRLPRO	01	E	P			
2/16/2012	0:00 - 6:00	6.00	DRLPRO	01	E	P		RIGGING DOWN TOP DRIVE, PREPARING TO LOWER THE DERRICK	

US ROCKIES REGION
Operation Summary Report

Well: NBU 920-24B

Spud Date: 2/8/2012

Project: UTAH-UINTAH

Site: NBU 920-24B

Rig Name No: PROPETRO 10/10, PIONEER 54/54

Event: DRILLING

Start Date: 1/24/2012

End Date: 2/29/2012

Active Datum: RKB @4,769.01ft (above Mean Sea Level)

UWI: NW/NE/0/9/S/20/E/24/0/0/26/PM/N/473/E/0/2377/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
	6:00 - 16:00	10.00	DRLPRO	01	A	P		MOVE RIG TO THE NBU 921-11L W/ WESTROC & J&C CRANE, 6 BED & 8 HAUL TRUCKS, 2 FORKLIFTS, TRUCK & CRANE LEFT @ 16:00, 20 WESTROC HANDS, 5 J & C HANDS, 5 EXTRA RIG HANDS, 5 MOUNTAIN WEST HANDS,
	16:00 - 0:00	8.00	DRLPRO	21	E	Z		TOP OFF SIDE SUB STRUCTURE LAID OVER ON IT SIDE WHEN UNLOADING IT FROM TRUCK. WAITING FOR DSI TO INSPECT AND MAGNAFLUX EACH WELD.
2/17/2012	0:00 - 0:00	24.00	DRLPRO	21	E	Z		WAITING FOR DSI TO INSPECT AND MAGNAFLUX EACH WELD OF TOP OFF SIDE SUB
2/18/2012	0:00 - 13:00	13.00	DRLPRO	21	E	Z		WAITING FOR DSI TO INSPECT AND MAGNAFLUX EACH WELD OF TOP OFF SIDE SUB. INSPECTION OF SUB
	13:00 - 14:00	1.00	DRLPRO	21	E	Z		WAITING FOR WESTROC TRUCKS AND J&C CRANE
	14:00 - 18:00	4.00	DRLPRO	01	B	P		4 TRUCKS, 1 FORKLIFT, 1 TRUCK PUSHER, 4 OILERS, 1 CRANE OPERATOR. SAFETY MEETING WITH WESTROC, RIG UP SUB STRUCTURE, DERRICK ON FLOOR READY TO BE RAISED. TRUCKS AND CRANE RELEASED @ 1800
2/19/2012	18:00 - 0:00	6.00	DRLPRO	21	C	P		WAITING FOR DAYLIGHT
	0:00 - 7:00	7.00	DRLPRO	21	C	P		WAITING FOR DAYLIGHT
	7:00 - 11:00	4.00	DRLPRO	01	B	P		RAISED DERRICK, RIGGED UP TOP DRIVE AND SERVICE LOOP, SAFETY MEETING WITH WESTROC AND J&C CRANE, 2 TRUCKS, 1 TRUCK PUSHER, 4 OILERS, 1 CRANE OPERATOR, TRUCKS/CRANE RELEASED @ 1000
	11:00 - 13:00	2.00	DRLPRO	14	A	P		NIPPLE UP BOPE
	13:00 - 14:00	1.00	DRLPRO	14	A	P		RIGGED UP STRATA TO BOPE
	14:00 - 17:00	3.00	DRLPRO	15	A	P		PRESSURE TEST BOPE. RAMS, VALVES, MAINFOLD AND CHOKE TESTED @5000 PSI. ANNULAR TESTED @2500 PSI. SUPER CHOKE TESTED @500 PSI. SURFACE CASING TESTED @1500 PSI
	17:00 - 19:00	2.00	DRLPRO	15	A	P		TEST ORBIT VALVE, MANIFOLD, CHOKE, CHOKE LINES @3000 PSI
	19:00 - 23:30	4.50	DRLPRO	06	A	P		RIG UP KIMSEY LAY DOWN TRUCK. SAFETY MEETING. PICKED UP BIT, MOTOR, DIRECTIONAL TOOLS, HEAVY WEIGHT DRILL PIPE AND DRILL PIPE. TRIPPED IN THE HOLE TO 2620'
	23:30 - 0:00	0.50	DRLPRO	09	A	P		SLIP AND CUT 100' OF DRILL LINE. PRE SPUD FINAL INSPECTION.
2/20/2012	0:00 - 1:30	1.50	DRLPRO	02	F	P		DRILLED OUT SHOE TRACK. FLOAT@2800', SHOE@2850', NEW HOLE@2855'

US ROCKIES REGION
Operation Summary Report

Well: NBU 920-24B

Spud Date: 2/8/2012

Project: UTAH-UINTAH

Site: NBU 920-24B

Rig Name No: PROPETRO 10/10, PIONEER 54/54

Event: DRILLING

Start Date: 1/24/2012

End Date: 2/29/2012

Active Datum: RKB @4,769.01ft (above Mean Sea Level)

UWI: NW/NE/0/9/S/20/E/24/0/0/26/PM/N/473/E/0/2377/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
	1:30 - 14:00	12.50	DRLPRO	02	D	P		DRLG F/ 2855' TO 4848', 1993' @ 159.4' PH WOB / 18-22, RPM 50-60 SPM 200 - GPM 586 MW 8.8 VIS 28 TRQ ON/OFF = 6-8 K PSI ON /OFF 1800-1450 , DIFF 250-450 PU/SO/RT = 125-122-118 SLIDE = 162' IN 2.10 HRS = 77.1' PH ROT = 1831' IN 10.4 HRS = 176' PH STRATA - OFF LINE NOV- 2 DEWATERING 39.6' N & 3.10' W OF TARGET CENTER NO FLARE
	14:00 - 14:30	0.50	DRLPRO	07	A	P		RIG SERVICE, FUNCTION TEST ANNULAR AND PIPE RAMS, BOP DRILL FOR 70 SEC
	14:30 - 0:00	9.50	DRLPRO	02	D	P		DRLG F/ 4848' TO 6175', 1327' @ 139.7' PH WOB / 18-22, RPM 50-60 SPM 200 - GPM 586 MW 9.0 VIS 30 TRQ ON/OFF = 6-8 K PSI ON /OFF 1800-1450 , DIFF 250-450 PU/SO/RT = 155/135/145 SLIDE = 100' IN 1.59 HRS = 62.9' PH ROT = 1227' IN 7.91 HRS = 155.1' PH STRATA - OFF LINE NOV- 1 DEWATERING, 1 SHUTDOWN 34.6' N & 25' W OF TARGET CENTER NO FLARE
2/21/2012	0:00 - 17:30	17.50		02	D			DRLG F/ 6175' TO 7503', 1328' @ 75.9' PH WOB / 25, RPM 60 SPM 200 - GPM 586 MW 8.8 VIS 33 TRQ ON/OFF = 5000-9000 K PSI ON /OFF 1800-2100 , DIFF 150-350 PU/SO/RT = 170/160/150 SLIDE = 115' IN 2.42 HRS = 47.5' PH ROT = 1213' IN 15.08 HRS = 80.4' PH STRATA - ON LINE NOV- 2 DEWATERING 58.4' N & 36.4' W OF TARGET CENTER 0-5' FLARE DRILLING, 5' CONNECTION RIG SERVICE
	17:30 - 18:00	0.50	DRLPRO	07	A	P		
	18:00 - 0:00	6.00	DRLPRO	02	D	P		DRLG F/ 7503' TO 7860', 357' @ 59.5' PH WOB / 25, RPM 60 SPM 200 - GPM 586 MW 8.8 VIS 33 TRQ ON/OFF = 5000-9000 K PSI ON /OFF 1800-2100 , DIFF 150-350 PU/SO/RT = 180/155/170 SLIDE = 20' IN .67 HRS = 29.8' PH ROT = 337' IN 5.33 HRS = 63.2' PH STRATA - ON LINE NOV- 2 DEWATERING 67.1' N & 39.8' W OF TARGET CENTER 0-5' FLARE DRILLING, 5' CONNECTION

US ROCKIES REGION
Operation Summary Report

Well: NBU 920-24B

Spud Date: 2/8/2012

Project: UTAH-UINTAH

Site: NBU 920-24B

Rig Name No: PROPETRO 10/10, PIONEER 54/54

Event: DRILLING

Start Date: 1/24/2012

End Date: 2/29/2012

Active Datum: RKB @4,769.01ft (above Mean Sea Level)

UWI: NW/NE/0/9/S/20/E/24/0/0/26/PM/N/473/E/0/2377/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
2/22/2012	0:00 - 9:00	9.00	DRLPRO	02	D	P		DRLG F/ 7860' TO 8220', 360' @ 40' PH WOB / 25, RPM 60 SPM 200 - GPM 586 MW 8.8 VIS 33 TRQ ON/OFF = 5000-9000 K PSI ON /OFF 1800-2100 , DIFF 150-350 PU/SO/RT = 180/155/170 SLIDE = ROT = 100% STRATA - ON LINE CHOKE 100% OPEN, ONLINE WHEN NEEDED NOV- 2 DEWATERING 67.1' N & 39.8' W OF TARGET CENTER 0-5' FLARE DRILLING, 5' CONNECTION TRIP OUT OF HOLE FOR NEW MOTOR AND BIT
	9:00 - 13:30	4.50	DRLPRO	06	A	P		TRIP IN HOLE, FILLED PIPE @3151' AND 6254', REAMED 60' TO BOTTOM
	13:30 - 18:00	4.50	DRLPRO	06	A	P		DRLG F/ 8220' TO 8739', 519' @ 86.5' PH WOB / 20, RPM 60 SPM 200 - GPM 586 MW 9.0 VIS 36 TRQ ON/OFF = 5000-9000 K PSI ON /OFF 2100-2300 , DIFF 150-350 PU/SO/RT = 190/160/176 SLIDE = ROT = 100% STRATA - ON LINE 80-250 ANN PRESS DRLG, 350 CONN NOV- 2 DEWATERING 70.4' N & 33.2' W OF TARGET CENTER 5-10' FLARE DRILLING, 15' CONNECTION
	18:00 - 0:00	6.00	DRLPRO	02	D	P		DRLG F/ 8739' TO 9120', 381' @ 54.4' PH WOB / 20, RPM 60 SPM 200 - GPM 586 MW 9.0 VIS 36 TRQ ON/OFF = 5000-9000 K PSI ON /OFF 2100-2300 , DIFF 150-350 PU/SO/RT = 220/165/190 SLIDE = ROT = 100% STRATA - ON LINE 80-250 ANN PRESS DRLG, 350 CONN NOV- 2 CONVENTIONAL 70.4' N & 33.2' W OF TARGET CENTER 5-10' FLARE DRILLING, 15' CONN TRIPPED OUT OF HOLE TO RECOVER DRILL PIPE SCREEN
2/23/2012	0:00 - 7:00	7.00	DRLPRO	02	D	P		
	7:00 - 7:30	0.50	DRLPRO	22	O	S		

US ROCKIES REGION
Operation Summary Report

Well: NBU 920-24B

Spud Date: 2/8/2012

Project: UTAH-UINTAH

Site: NBU 920-24B

Rig Name No: PROPETRO 10/10, PIONEER 54/54

Event: DRILLING

Start Date: 1/24/2012

End Date: 2/29/2012

Active Datum: RKB @4,769.01ft (above Mean Sea Level)

UWI: NW/NE/O/S/20/E/24/O/O/26/PM/N/473/E/O/2377/O/O

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
	7:30 - 16:00	8.50	DRLPRO	02	D	P		DRLG F/ 9120' TO 9593', 473 ' @ 55.6' PH WOB / 20, RPM 60 SPM 200 - GPM 586 MW 9.0 VIS 36 TRQ ON/OFF = 5000-9000 K PSI ON /OFF 2100-2300 , DIFF 150-350 PU/SO/RT = 220/165/190 SLIDE = ROT = 100% STRATA - ON LINE 80-250 ANN PRESS DRLG, 350 CONN NOV- 2 CONVENTIONAL 70.4' N & 33.2' W OF TARGET CENTER 5-10' FLARE DRILLING, 15' CONN
	16:00 - 16:30	0.50	DRLPRO	07	A	P		RIG SERVICE, FUNCTION TEST ANNULAR AND PIPE RAMS, BOP DRILL 70 SEC
	16:30 - 0:00	7.50	DRLPRO	02	D	P		DRLG F/ 9593' TO 9915', 322 ' @ 42.9' PH WOB / 22, RPM 60 SPM 200 - GPM 586 MW 8.9 VIS 40 TRQ ON/OFF = 5000-9000 K PSI ON /OFF 2100-2300 , DIFF 150-350 PU/SO/RT = 220/165/190 SLIDE = ROT = 100% STRATA - ON LINE 125-160 ANN PRESS DRLG, 350 CONN NOV- 2 CONVENTIONAL 35.9 N & 31.8' W OF TARGET CENTER 10'-15' FLARE DRILLING, 20' CONN
2/24/2012	0:00 - 15:30	15.50	DRLPRO	02	D	P		DRLG F/ 9593' TO 10353', 760 ' @ 49' PH WOB / 25, RPM 60 SPM 200 - GPM 586 MW 9.0 VIS 36 TRQ ON/OFF = 5000-9000 K PSI ON /OFF 2100-2300 , DIFF 150-350 PU/SO/RT = 220/180/200 SLIDE = ROT = 100% STRATA - ON LINE 200-450 ANN PRESS DRLG, 475 CONN NOV- 2 CONVENTIONAL 27.3' N & 30.4' W OF TARGET CENTER 15-20' FLARE DRILLING, 20-30' CONN RIG SERVICE
	15:30 - 16:00	0.50	DRLPRO	07	A	P		

US ROCKIES REGION
Operation Summary Report

Well: NBU 920-24B

Spud Date: 2/8/2012

Project: UTAH-UINTAH

Site: NBU 920-24B

Rig Name No: PROPETRO 10/10, PIONEER 54/54

Event: DRILLING

Start Date: 1/24/2012

End Date: 2/29/2012

Active Datum: RKB @4,769.01ft (above Mean Sea Level)

UWI: NW/NE/0/9/S/20/E/24/0/0/26/PM/N/473/E/0/2377/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
	16:00 - 0:00	8.00	DRLPRO	02	D	P		DRLG F/ 10353' TO 10560', 207' @ 25.8' PH WOB / 25, RPM 60 SPM 200 - GPM 586 MW 9.5 VIS 40 TRQ ON/OFF = 7000-9000 K PSI ON /OFF 2500-2700 , DIFF 150-350 PU/SO/RT = 220/180/200 SLIDE = ROT = 100% STRATA - ON LINE 200-450 ANN PRESS DRLG, 475 CONN NOV- 2 CONVENTIONAL 27.3' N & 30.4' W OF TARGET CENTER 15-20' FLARE DRILLING, 20-30' CONN
2/25/2012	0:00 - 5:30	5.50	DRLPRO	02	D	P		DRLG F/ 10560' TO 10644', 84' @ 15.3' PH WOB / 26, RPM 60 SPM 200 - GPM 586 MW 9.5 VIS 40 TRQ ON/OFF = 7000-9000 K PSI ON /OFF 2500-2700 , DIFF 150-350 PU/SO/RT = 220/180/200 SLIDE = ROT = 100% STRATA - ON LINE 200-450 ANN PRESS DRLG, 475 CONN NOV- 2 CONVENTIONAL 27.3' N & 30.4' W OF TARGET CENTER 15-20' FLARE DRILLING, 20-30' CONN
	5:30 - 10:30	5.00	DRLPRO	06	A	P		SPOTTED 70 BBLS 11.5 MUD ON BOTTOM, PULLED 20 STANDS, SPOTTED ANOTHE 70 BBLS OF 11.5 MUD, TRIPPED OUT OF THE HOLE TO CHANGE OUT BIT
	10:30 - 12:30	2.00	DRLPRO	06	A	P		CHANGED OUT BIT, MOTOR GOOD FROM PREVIOUS BHA, TRIPPED IN THE HOLE.
	12:30 - 13:30	1.00	DRLPRO	05	A	S		CIRCULATE OUT TRIP GAS, PUMPED 11.5 MUD
	13:30 - 15:30	2.00	DRLPRO	06	A	P		TRIPPED IN HOLE
	15:30 - 16:30	1.00	DRLPRO	05	A	S		CIRCULATE OUT TRIP GAS, PUMPED 11.5 MUD
	16:30 - 17:30	1.00	DRLPRO	06	A	P		TRIPPED IN HOLE, REAMED LAST 180' TO BOTTOM
	17:30 - 0:00	6.50	DRLPRO	02	D	P		DRLG F/ 10644' TO 10900', 256' @39.8' PH WOB / 20, RPM 60 SPM 180 - GPM 527 MW 11.0 VIS 40 TRQ ON/OFF = 7000-9000 K PSI ON /OFF 2600-2900 , DIFF 150-350 PU/SO/RT = 230/195/210 SLIDE = ROT = 100% STRATA - ON LINE 80-150 ANN PRESS DRLG, 200 CONN NOV- 2 OFFLINE 13.8' N & 21.7' W OF TARGET CENTER 0-5' FLARE DRILLING, 10' CONN

US ROCKIES REGION
Operation Summary Report

Well: NBU 920-24B

Spud Date: 2/8/2012

Project: UTAH-UINTAH

Site: NBU 920-24B

Rig Name No: PROPETRO 10/10, PIONEER 54/54

Event: DRILLING

Start Date: 1/24/2012

End Date: 2/29/2012

Active Datum: RKB @4,769.01ft (above Mean Sea Level)

UWI: NW/NE/0/9/S/20/E/24/0/0/26/PM/N/473/E/0/2377/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
2/26/2012	0:00 - 15:00	15.00	DRLPRO	02	D	P		DRLG F/ 10900' TO 11490', 590' @39.3' PH WOB / 25, RPM 60 SPM 180 - GPM 527 MW 11.0, VIS 40 TRQ ON/OFF = 7000-9000 K PSI ON /OFF 2600-2900 , DIFF 150-350 PU/SO/RT = 230/195/210 SLIDE = ROT = 100% STRATA - ONLINE, CHOKE OPEN 100% 80 ANN PRESS DRLG, 80 CONN NOV- 2 OFFLINE 2.4' N & 12.17' W OF TARGET CENTER 0-5' FLARE DRILLING, 0-5' CONN TRIP OUT OF HOLE TO SHOE @2853'
	15:00 - 19:00	4.00	DRLPRO	06	E	P		TRIP IN THE HOLE TO BOTTOM
	19:00 - 21:30	2.50	DRLPRO	06	E	P		CIRCULATE 2 BOTTOMS UP, PUMPED 2 HIGH VIS SWEEPS PRIOR TO TRIPPING OUT FOR LOGS
	21:30 - 0:00	2.50	DRLPRO	05	C	P		TRIPPING OUT FOR LOGS, SPOTTED 70 BBL, 12.5 WT MUD ON BOTTOM, PULLED 20 STANDS, SPOTTED 2ND 70 BBL, 12.5 WT ON BOTTOM, TRIPPED OUT OF THE HOLE
2/27/2012	0:00 - 5:30	5.50	DRLPRO	06	B	P		RIGGING UP LOGGERS, SAFETY MEETING
	5:30 - 6:00	0.50	DRLPRO	11	D	P		RUNNING TRIPLE COMBO FORMATION LOGS WITH BAKER ATLAS. LOG DEPTH 11474', RIG DOWN
	6:00 - 12:00	6.00	DRLPRO	11	D	P		TRIPPED IN HOLE, BLOW DOWN KELLY HOSE AND STRATA LINES
	12:00 - 14:00	2.00	DRLPRO	06	D	P		SLIP AND CUT 100' DRILL LINE
	14:00 - 15:00	1.00	DRLPRO	09	A	P		TRIPPED IN HOLE, REAMED LAST 90'
	15:00 - 18:00	3.00	DRLPRO	06	D	P		CIRCULATE 2 BOTTOMS UP, PUMPED 2 HIGH VIS SWEEPS, RIG UP LAY DOWN TRUCK, SAFETY MEETING WITH KIMZEY
	18:00 - 20:30	2.50	DRLPRO	05	C	P		SPOTTED 70 BBL, 13 WT MUD ON BOTTOM, PULLED 20 STANDS, SPOTTED 2ND 70 BBLs, 13 WT MUD ON BOTTOM, LAYED DOWN DRILL PIPE.
	20:30 - 0:00	3.50	DRLPRO	06	D	P		LAYING DOWN DRILL PIPE
2/28/2012	0:00 - 4:30	4.50	DRLPRO	06	B	P		REMOVE WEAR BUSHING
	4:30 - 5:00	0.50	DRLPRO	14	B	P		RIG UP KIMZEY CASING CREW, SAFETY MEETING
	5:00 - 6:00	1.00	DRLPRO	12	A	P		RUN CASING, RUN 152 JOINTS P-110 LTC, 156 JOINTS P-110 DQX, B/H MARKER @ 10,904, MEZA MARKER @ 8254, X/O @ 5052, SHOE @ 11,458', FLOAT @ 11,415'
	6:00 - 14:00	8.00	DRLPRO	12	C	P		CIRCULATE OUT GAS
	14:00 - 16:30	2.50	DRLPRO	05	D	P		RIG UP CEMENT, SAFETY MEETING
	16:30 - 18:00	1.50	DRLPRO	12	B	P		TEST LINES TO 5000, PUMP 25 SPACER, LEAD 551, 12 PPG, 2.26 YEILD, TAIL 1764 14.3 PPG, 1.31 YEILD, DROP PUMP & DISPLACE W 177 BBLs CLAYCARE, BUMP PLUG @4100 PSI FOR 5 MIN, FLOATS HELD, 15 BBLs CEMENT BACK TO PIT, TOP OF TAIL @4000'
	18:00 - 21:00	3.00	DRLPRO	12	E	P		SET C-22 CASING SLIPS W/ 120K
	21:00 - 21:30	0.50	DRLPRO	14	B	P		N/D MAKE ROUGH CUT, CLEAN PITS, WINTERIZE RIG, RELEASE RIG TO THE 920-24AT @ 00:00
	21:30 - 0:00	2.50	DRLPRO	14	A	P		

1 General

1.1 Customer Information

Company	US ROCKIES REGION
Representative	
Address	

1.2 Well/Wellbore Information

Well	NBU 920-24B	Wellbore No.	OH
Well Name	NBU 920-24B	Wellbore Name	NBU 920-24B
Report No.	1	Report Date	3/14/2012
Project	UTAH-UINTAH	Site	NBU 920-24B
Rig Name/No.		Event	COMPLETION
Start Date	3/14/2012	End Date	3/21/2012
Spud Date	2/8/2012	Active Datum	RKB @4,769.01ft (above Mean Sea Level)
UWI	NW/NE/0/9/S/20/E/24/0/0/26/PM/N/473/E/0/2377/0/0		

1.3 General

Contractor	JW WIRELINE	Job Method		Supervisor	STEVE WALL, SR.
Perforated Assembly	PRODUCTION CASING	Conveyed Method			

1.4 Initial Conditions

Fluid Type		Fluid Density		Gross Interval	8,490.0 (ft)-11,236.0 (ft)	Start Date/Time	3/16/2012 12:00AM
Surface Press		Estimate Res Press		No. of Intervals	32	End Date/Time	3/20/2012 12:00AM
TVD Fluid Top		Fluid Head		Total Shots	192	Net Perforation Interval	57.00 (ft)
Hydrostatic Press		Press Difference		Avg Shot Density	3.37 (shot/ft)	Final Surface Pressure	
Balance Cond	NEUTRAL					Final Press Date	

1.5 Summary

2 Intervals

2.1 Perforated Interval

Date	Formation/ Reservoir	CCL@ (ft)	CCL-T S (ft)	MD Top (ft)	MD Base (ft)	Shot Density (shot/ft)	Misfires/ Add. Shot	Diameter (in)	Carr Type /Carr Manuf	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
3/20/2012 12:00AM	MESAVERDE/			8,490.0	8,492.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	

2.1 Perforated Interval (Continued)

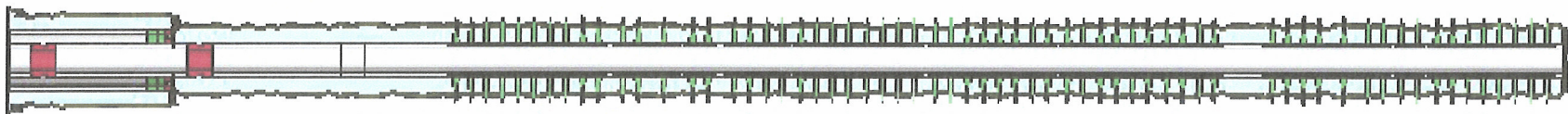
Date	Formation/ Reservoir	CCL@ (ft)	CCL-T S (ft)	MD Top (ft)	MD Base (ft)	Shot Density (shot/ft)	Misfires/ Add. Shot	Diamete r (in)	Carr Type /Carr Manuf	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
3/20/2012 12:00AM	MESAVERDE/			8,505.0	8,506.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
3/20/2012 12:00AM	MESAVERDE/			8,528.0	8,530.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
3/20/2012 12:00AM	MESAVERDE/			8,543.0	8,544.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
3/20/2012 12:00AM	MESAVERDE/			8,573.0	8,575.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
3/20/2012 12:00AM	MESAVERDE/			8,778.0	8,780.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
3/20/2012 12:00AM	MESAVERDE/			8,824.0	8,826.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
3/20/2012 12:00AM	MESAVERDE/			8,968.0	8,970.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
3/20/2012 12:00AM	MESAVERDE/			9,222.0	9,223.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
3/20/2012 12:00AM	MESAVERDE/			9,259.0	9,260.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
3/20/2012 12:00AM	MESAVERDE/			9,342.0	9,343.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
3/20/2012 12:00AM	MESAVERDE/			9,364.0	9,365.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
3/20/2012 12:00AM	MESAVERDE/			9,428.0	9,429.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
3/20/2012 12:00AM	MESAVERDE/			9,449.0	9,450.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
3/19/2012 12:00AM	MESAVERDE/			9,572.0	9,574.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
3/19/2012 12:00AM	MESAVERDE/			9,613.0	9,615.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
3/19/2012 12:00AM	MESAVERDE/			9,638.0	9,640.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
3/19/2012 12:00AM	MESAVERDE/			9,668.0	9,670.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
3/19/2012 12:00AM	MESAVERDE/			9,771.0	9,772.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
3/19/2012 12:00AM	MESAVERDE/			9,802.0	9,803.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
3/19/2012 12:00AM	MESAVERDE/			9,834.0	9,836.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
3/19/2012 12:00AM	MESAVERDE/			9,902.0	9,904.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	

2.1 Perforated Interval (Continued)

Date	Formation/ Reservoir	CCL@ (ft)	CCL-T S (ft)	MD Top (ft)	MD Base (ft)	Shot Density (shot/ft)	Misfires/ Add. Shot	Diamete r (in)	Carr Type /Carr Manuf	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
3/19/2012 12:00AM	MESAVERDE/			9,931.0	9,932.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
3/19/2012 12:00AM	MESAVERDE/			10,942.0	10,948.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
3/19/2012 12:00AM	MESAVERDE/			10,962.0	10,964.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
3/19/2012 12:00AM	MESAVERDE/			11,002.0	11,004.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
3/19/2012 12:00AM	MESAVERDE/			11,028.0	11,030.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
3/19/2012 12:00AM	MESAVERDE/			11,101.0	11,103.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
3/16/2012 12:00AM	MESAVERDE/			11,197.0	11,199.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
3/16/2012 12:00AM	MESAVERDE/			11,206.0	11,208.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
3/16/2012 12:00AM	MESAVERDE/			11,220.0	11,222.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
3/16/2012 12:00AM	MESAVERDE/			11,234.0	11,236.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	

3 Plots

3.1 Wellbore Schematic



US ROCKIES REGION
Operation Summary Report

Well: NBU 920-24B

Spud Date: 2/8/2012

Project: UTAH-UINTAH

Site: NBU 920-24B

Rig Name No: SWABBCO 8/8

Event: COMPLETION

Start Date: 3/14/2012

End Date: 3/21/2012

Active Datum: RKB @4,769.01ft (above Mean Sea Level)

UWI: NW/NE/0/9/S/20/E/24/0/0/26/PM/N/473/E/0/2377/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
3/14/2012	-							
3/15/2012	8:00 - 11:00	3.00	COMP	33		P		HELD SAFETY MEETING; HIGH PRESSURE
								FILL SURFACE CSG. MIRU B&C QUICK TEST. PSI TEST T/ 1000 PSI. HELD FOR 15 MIN LOST 19 PSI. PSI TEST T/ 3500 PSI. HELD FOR 15 MIN LOST 31 PSI. 1ST PSI TEST T/ 9000 PSI. HELD FOR 30 MIN LOST 103 PSI. NO COMMUNICATION OR MIGRATION WITH SURFACE CSG BLEED OFF PSI. SWIFN
	11:00 - 17:00	6.00	COMP	30	A	P		MIRU, ND WH NU BOPS RU FLOOR, TALLY & PU 164 JTS EOT @ 5209' SWI SDFN.
3/16/2012	7:00 - 7:30	0.50	COMP	48		P		HSM, PICKING UP TBG OFF FLOAT.
	7:30 - 11:30	4.00	COMP	31	I	P		PU REM 102 JTS 23/8 L-80 OFF FLOAT. POOH W/ 266 JTS IN DERICK.
	11:30 - 12:00	0.50	COMP	33	D	P		RU B&C INSTALL TBG HANGER TEST FRAC VALVE TO 9000 PSI FOR 10 MIN OK, RD B&C.
	12:00 - 15:00	3.00	COMP	37	B	P		RU JW RIH W/ 31/8 23 GRM, .36" HOLES EXP GUNS, PERF 1ST STG AS OF PROCEDURE, POOH SWI PREP TO FRAC 3/19/12, SDFWE
3/19/2012	7:00 - 8:33	1.55	COMP	36		P		HSM W/ SUPERIOR, STAY AWAY FROM HIGH PRESSURE LINES.PRIME PUMPS & LINES TEST TO 9500 PSI.SET POPOFF @ 8850 PSI, SET KICK OUTS ON 3 TRKS @ 8700 PSI, 3 TRKS @ 8800 PSI. (STG # 1) WHP 1170 PSI, BRK 4262 PSI @ 5.3 BPM. ISIP 3762 PSI, FG .77. SPOT ACID ON PERFS LET SOAK FOR 5 MIN. CALC HOLES OPEN @ 50.3 BPM @ 7175 PSI = 87% HOLES OPEN. MP 8268 PSI, MR 52.2 BPM, AP 7172 PSI, AR 50.6 BPM ISIP 3981 PSI, FG .79 NPI 219 PSI.
	8:33 - 12:08	3.58	COMP	36	E	P		(STG #2) PU 41/2 HAL 8-K CBP & 31/8 EXP 23 GRM .36" HLS, 90 DEG PHASING, SET CBP @ 11,133', PERF WELL AS OF PROCEDURE. WHP 3330 PSI, BRK 4381 PSI @ 3.7 BPM. ISIP 3762 PSI, FG .78. CALC HOLES OPEN @ 50.2 BPM @ 6847 PSI = 96% HOLES OPEN. MP 8075 PSI, MR 52.5 BPM, AP 6885 PSI, AR 50.5 BPM ISIP 3653 PSI, FG .77 NPI -109 PSI.

US ROCKIES REGION
Operation Summary Report

Well: NBU 920-24B

Spud Date: 2/8/2012

Project: UTAH-UINTAH

Site: NBU 920-24B

Rig Name No: SWABBCO 8/8

Event: COMPLETION

Start Date: 3/14/2012

End Date: 3/21/2012

Active Datum: RKB @4,769.01ft (above Mean Sea Level)

UWI: NW/NE/0/9/S/20/E/24/0/0/26/PM/N/473/E/0/2377/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
	12:08 - 14:22	2.23	COMP	36	E	P		(STG #3) PU 41/2 HAL 8-K CBP & 31/8 EXP 23 GRM .36" HLS, 120 DEG PHASING, SET CBP @ 10,992', PERF WELL AS OF PROCEDURE. WHP 3068 PSI, BRK 4129 PSI @ 3.5 BPM. ISIP 3743 PSI, FG .78. CALC HOLES OPEN @ 50.1 BPM @ 6444 PSI = 100% HOLES OPEN. MP 6875 PSI, MR 51.0 BPM, AP 6587 PSI, AR 49.8 BPM ISIP 3514 PSI, FG .76 NPI -229 PSI.
	14:22 - 15:57	1.58	COMP	36	E	P		(STG # 4) PU 41/2 HAL 8-K CBP & 31/8 EXP 23 GRM .36" HLS, 120 & 90 DEG PHASING, SET CBP @ 9,962', PERF WELL AS OF PROCEDURE. WHP 1921 PSI, BRK 3784 PSI @ 3.7 BPM. ISIP 3130 PSI, FG .76. CALC HOLES OPEN @ 50.7 BPM @ 5900 PSI = 100% HOLES OPEN. MP 6423 PSI, MR 53.9 BPM, AP 6051 PSI, AR 49.9 BPM ISIP 3494 PSI, FG .79 NPI 364 PSI.
	15:57 - 17:30	1.55	COMP	37	B	P		(STG # 5) PU 41/2 HAL 8-K CBP & 31/8 EXP 23 GRM .36" HLS, 120 DEG PHASING, SET CBP @ 9,700', PERF WELL AS OF PROCEDURE. POOH SWI SDFN
3/20/2012	7:00 - 7:26	0.43	COMP	36	E	P		HSM W/ SUPERIOR, MAKING SURE TO STAY AWAY FROM HIGH PRESSURE LINES & WIRE LINE. (STG # 5) WHP 2094 PSI, BRK 3312 PSI @ 4.0 BPM. ISIP 2543 PSI, FG .70. CALC HOLES OPEN @ 50.8 BPM @ 6105 PSI = 78% HOLES OPEN. MP 8075 PSI, MR 52.5 BPM, AP 6885 PSI, AR 50.5 BPM ISIP 3653 PSI, FG .77 NPI -109 PSI.
	7:26 - 8:49	1.38	COMP	36	E	P		(STG #6) PU 41/2 HAL 8-K CBP & 31/8 EXP 23 GRM .36" HLS, 90 DEG PHASING, SET CBP @ 9,480', PERF WELL AS OF PROCEDURE. WHP 2500 PSI, BRK 3470 PSI @ 3.7 BPM. ISIP 2631 PSI, FG .72. CALC HOLES OPEN @ 50.2 BPM @ 5734 PSI = 86% HOLES OPEN. MP 6008 PSI, MR 50.6 BPM, AP 5841 PSI, AR 48.9 BPM ISIP 2882 PSI, FG .75 NPI 251 PSI.
	8:49 - 10:01	1.20	COMP	36	E	P		(STG # 7)PU 41/2 HAL 8-K CBP & 31/8 EXP 23 GRM .36" HLS, 90 DEG PHASING, SET CBP @ 9,000', PERF WELL AS OF PROCEDURE. WHP 1693 PSI, BRK 2909 PSI @ 3.1 BPM. ISIP 2324 PSI, FG .70. CALC HOLES OPEN @ 50.0 BPM @ 6892 PSI = 69% HOLES OPEN. MP 7364 PSI, MR 51.3 BPM, AP 6665 PSI, AR 49.9 BPM ISIP 3151 PSI, FG .79 NPI 827 PSI.

US ROCKIES REGION
Operation Summary Report

Well: NBU 920-24B		Spud Date: 2/8/2012	
Project: UTAH-UINTAH	Site: NBU 920-24B		Rig Name No: SWABBCO 8/8
Event: COMPLETION	Start Date: 3/14/2012		End Date: 3/21/2012
Active Datum: RKB @4,769.01ft (above Mean Sea Level)		UWI: NW/NE/0/9/S/20/E/24/0/0/26/PM/N/473/E/0/2377/0/0	

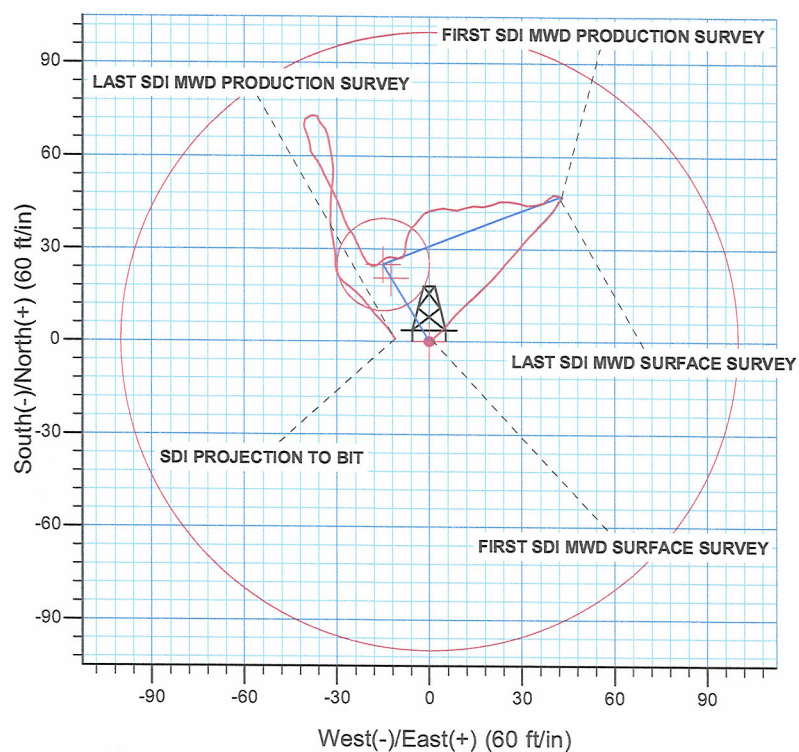
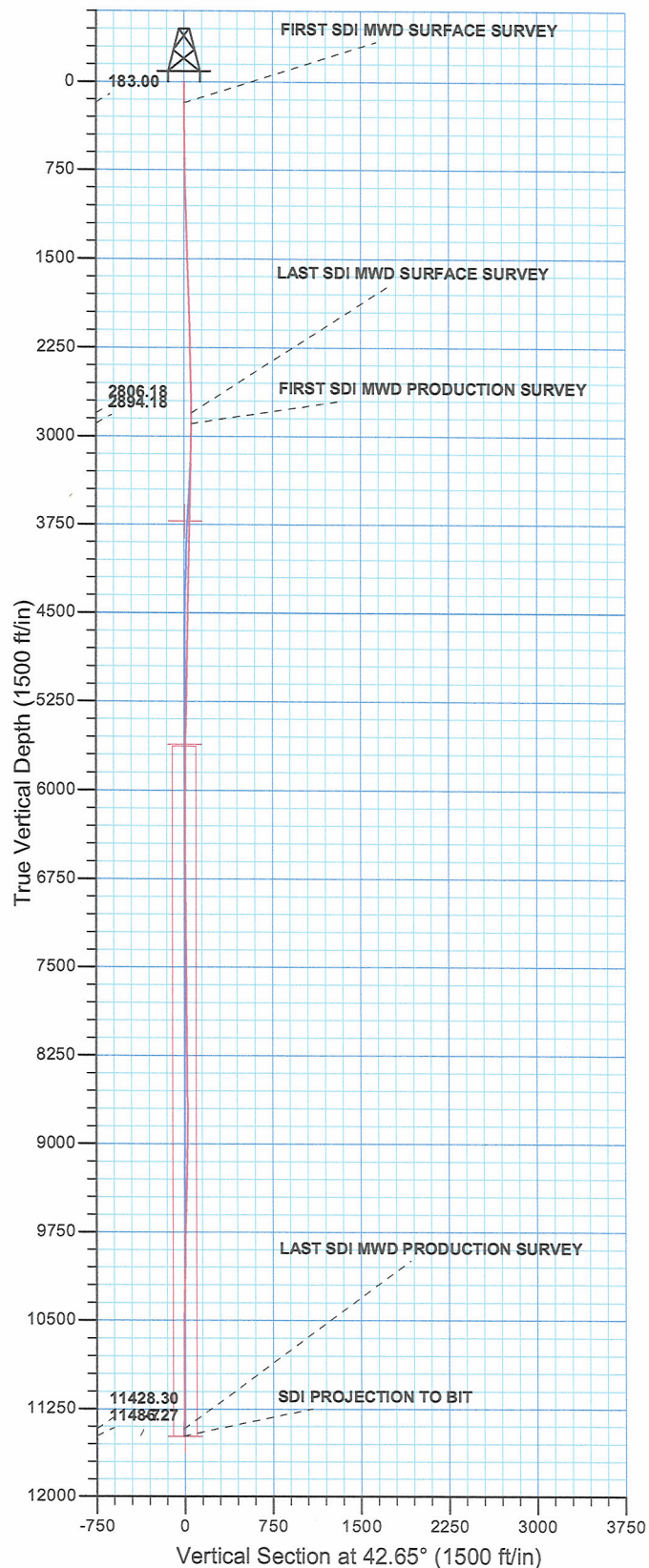
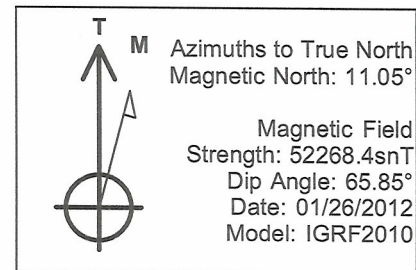
Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
	10:01 - 11:20	1.32	COMP	36	E	P		(STG # 8)PU 41/2 HAL 8-K CBP & 31/8 EXP 23 GRM .36" HLS, 120 DEG PHASING, SET CBP @ 8605', PERF WELL AS OF PROCEDURE. WHP 1642 PSI, BRK 2920 PSI @ 3.8 BPM. ISIP 2120 PSI, FG .69. CALC HOLES OPEN @ 50.2 BPM @ 4881 PSI = 100% HOLES OPEN. MP 5552 PSI, MR 50.9 BPM, AP 4937 PSI, AR 50.1 BPM ISIP 2744 PSI, FG .76 NPI 624 PSI. 305,187 LBS 40/70 PRIME + 92,770 LBS 30/50 OTTAWA 17,292 BBLs WTR 209 GALS BIOCID 378 GALS SCALE INH
	11:20 - 13:30	2.17	COMP	34	I	P		(KILL PLUG) RIH W/ 41/2 8K HAL CBP & SET @ 8440', POOH SWI RD WL & FRAC CREW.
	13:30 - 17:00	3.50	COMP	31	I	P		ND FV NU BOPS, RU FLOOR. RIH W/ 37/8 BIT,POBS, 1.875 X/N & 266 JTS TBG TO KILL PLUG, RU DRLG EQUIP, TEST BOPS TO 4000 PSI OK, PREP TO D/O IN AM. SWI SDFN.
3/21/2012	7:00 - 7:30	0.50	COMP	48		P		HSM, DRILLING PLUGS W/ SWIVEL

US ROCKIES REGION
Operation Summary Report

Well: NBU 920-24B		Spud Date: 2/8/2012	
Project: UTAH-UINTAH	Site: NBU 920-24B		Rig Name No: SWABBCO 8/8
Event: COMPLETION	Start Date: 3/14/2012		End Date: 3/21/2012
Active Datum: RKB @4,769.01ft (above Mean Sea Level)		UWI: NW/NE/0/9/S/20/E/24/0/0/26/PM/N/473/E/0/2377/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
	7:30 - 19:30	12.00	COMP	44	C	P		<p>BROKE CIRC CONVENTIONAL.</p> <p>C/O 5' SAND TAG 1ST PLUG @ 8440' DRL PLG IN 10 MIN, 1000# PSI INCREASE RIH.</p> <p>C/O 15' SAND TAG 2ND PLUG @ 8605' DRL PLG IN 6 MIN, 800# PSI INCREASE RIH.</p> <p>C/O 10' SAND TAG 3RD PLUG @ 9000' DRL PLG IN 6 MIN, 700# PSI INCREASE RIH.</p> <p>C/O 10' SAND TAG 4TH PLUG @ 9480' DRL PLG IN 5 MIN, 1000# PSI INCREASE RIH</p> <p>C/O 25' SAND TAG 5TH PLUG @ 9700' DRL PLG IN 4 MIN, 600# PSI INCREASE RIH</p> <p>C/O 20' SAND TAG 6TH PLUG @ 9962' DRL PLG IN 4 MIN, 600# PSI INCREASE RIH</p> <p>C/O 20' SAND TAG 7TH PLUG @ 10,992' DRL PLG IN 6 MIN, 1000# PSI INCREASE RIH</p> <p>C/O 30' SAND TAG 8TH PLUG @ 11,133' DRL PLG IN 5 MIN, 300# PSI INCREASE R</p> <p>C/O TO 11,336', CIRC CLN, L/D 12 JTS. LAND TBG ON 345 JTS 23/8 L-80. ND BOPS NU WH, TEST FLOW LINE TO 4,000 PSI, PUMP OFF BIT, TURN WELL OVER TO FB CREW. RDMOL, MOVE TO NBU 921-18D3DS, SPOT EQUIP HELP CAMERON IN STALL NEW WELL HEAD. SPOT CAT WALK & PIPE RACKS. SDFN</p> <p>KB= 19' (SURFOPEN W/ POPOFF)</p> <p>HANGER = .83' SICP 2800</p> <p>PSI, FTP 200 PSI</p> <p>345 JTS 23/8 L-80 = 10,940.75'</p> <p>POBS W/ 1.875 X/N = 2.20'</p> <p>EOT @ 10,962.78'</p> <p>TWTR 17,462 BBLS</p> <p>TWR 1300 BBLS</p> <p>TWLTR 16,162 BBLS</p> <p>366 JTS IN WELL</p> <p>345 LANDED</p> <p>23 TO RETURN</p> <p>WELL TURNED TO SALES AT 1400 HR ON 3/21/2012 - 820 MCFD, 2400 BWPD, FCP 3000#, FTP 2600#, 20/64 CK</p>
	14:00 -		COMP	50				

WELL DETAILS: NBU 920-24B					
GL 4750 & KB 19 @ 4769.00ft (PIONEER 54)					
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	14538919.54	2028624.01	40.027060	-109.613310



PROJECT DETAILS: UTAH - UTM (feet), NAD27, Zone 12N	
Geodetic System:	Universal Transverse Mercator (US Survey Feet)
Datum:	NAD 1927 (NADCON CONUS)
Ellipsoid:	Clarke 1866
Zone:	Zone 12N (114 W to 108 W)
Location:	SECTION 24 T9S R20E
System Datum:	Mean Sea Level

Design:	OH (NBU 920-24B/OH)
Created By:	Gabe Kendall
Date:	9:41, February 28 2012



Scientific Drilling
Rocky Mountain Operations

US ROCKIES REGION PLANNING

UTAH - UTM (feet), NAD27, Zone 12N

NBU 920-24B

NBU 920-24B

OH

Design: OH

Standard Survey Report

28 February, 2012

Anadarko 
Petroleum Corporation

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well NBU 920-24B
Project:	UTAH - UTM (feet), NAD27, Zone 12N	TVD Reference:	GL 4750 & KB 19 @ 4769.00ft (PIONEER 54)
Site:	NBU 920-24B	MD Reference:	GL 4750 & KB 19 @ 4769.00ft (PIONEER 54)
Well:	NBU 920-24B	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.1 Single User Db

Project	UTAH - UTM (feet), NAD27, Zone 12N		
Map System:	Universal Transverse Mercator (US Survey Feet)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	Zone 12N (114 W to 108 W)		

Site	NBU 920-24B, SECTION 24 T9S R20E				
Site Position:		Northing:	14,538,919.55 usft	Latitude:	40.027060
From:	Lat/Long	Easting:	2,028,624.01 usft	Longitude:	-109.613310
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in	Grid Convergence:	0.89 °

Well	NBU 920-24B, 473 FNL 2377 FEL					
Well Position	+N/-S	0.00 ft	Northing:	14,538,919.55 usft	Latitude:	40.027060
	+E/-W	0.00 ft	Easting:	2,028,624.01 usft	Longitude:	-109.613310
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	4,750.00 ft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	01/26/12	11.05	65.85	52,268

Design	OH				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.00	0.00	0.00	42.65	

Survey Program	Date	02/28/12		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
15.00	2,807.00	Survey #1 SDI MWD SURFACE (OH)	SDI MWD	SDI MWD - Standard ver 1.0.1
2,895.00	11,490.00	Survey #2 SDI MWD PRODUCTION (OH)	SDI MWD	SDI MWD - Standard ver 1.0.1

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
15.00	0.00	0.00	15.00	0.00	0.00	0.00	0.00	0.00	0.00	
183.00	0.62	55.43	183.00	0.52	0.75	0.89	0.37	0.37	0.00	
FIRST SDI MWD SURFACE SURVEY										
265.00	0.70	47.34	264.99	1.11	1.48	1.82	0.15	0.10	-9.87	
354.00	0.62	47.08	353.99	1.80	2.23	2.84	0.09	-0.09	-0.29	
444.00	0.77	49.90	443.98	2.52	3.05	3.93	0.17	0.17	3.13	
534.00	0.88	52.88	533.97	3.33	4.07	5.21	0.13	0.12	3.31	
624.00	0.79	36.01	623.96	4.25	4.98	6.50	0.29	-0.10	-18.74	
714.00	1.14	38.82	713.95	5.45	5.91	8.01	0.39	0.39	3.12	

Company: US ROCKIES REGION PLANNING
Project: UTAH - UTM (feet), NAD27, Zone 12N
Site: NBU 920-24B
Well: NBU 920-24B
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well NBU 920-24B
TVD Reference: GL 4750 & KB 19 @ 4769.00ft (PIONEER 54)
MD Reference: GL 4750 & KB 19 @ 4769.00ft (PIONEER 54)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Single User Db

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
804.00	1.32	39.00	803.93	6.95	7.12	9.94	0.20	0.20	0.20
894.00	1.41	42.25	893.90	8.58	8.52	12.08	0.13	0.10	3.61
984.00	1.49	44.88	983.87	10.23	10.09	14.36	0.12	0.09	2.92
1,074.00	1.76	46.91	1,073.84	12.00	11.92	16.91	0.31	0.30	2.26
1,164.00	1.67	46.29	1,163.80	13.85	13.88	19.59	0.10	-0.10	-0.69
1,254.00	1.76	49.89	1,253.76	15.65	15.89	22.27	0.16	0.10	4.00
1,344.00	1.67	42.86	1,343.71	17.50	17.84	24.95	0.25	-0.10	-7.81
1,434.00	1.76	44.53	1,433.67	19.45	19.70	27.65	0.11	0.10	1.86
1,524.00	1.58	40.84	1,523.64	21.37	21.48	30.27	0.23	-0.20	-4.10
1,614.00	1.58	39.17	1,613.60	23.27	23.07	32.75	0.05	0.00	-1.86
1,704.00	1.67	43.13	1,703.57	25.19	24.75	35.30	0.16	0.10	4.40
1,794.00	1.85	40.75	1,793.52	27.25	26.60	38.06	0.22	0.20	-2.64
1,884.00	1.93	43.21	1,883.47	29.45	28.58	41.03	0.13	0.09	2.73
1,974.00	1.93	37.33	1,973.42	31.76	30.54	44.05	0.22	0.00	-6.53
2,064.00	2.02	42.34	2,063.37	34.14	32.53	47.15	0.22	0.10	5.57
2,154.00	1.67	45.41	2,153.32	36.23	34.53	50.04	0.40	-0.39	3.41
2,244.00	1.40	41.18	2,243.29	37.98	36.19	52.45	0.33	-0.30	-4.70
2,334.00	1.50	44.17	2,333.26	39.65	37.73	54.73	0.14	0.11	3.32
2,424.00	1.41	39.29	2,423.23	41.35	39.26	57.01	0.17	-0.10	-5.42
2,514.00	1.06	31.09	2,513.21	42.92	40.39	58.93	0.43	-0.39	-9.11
2,604.00	0.97	35.04	2,603.20	44.26	41.25	60.50	0.13	-0.10	4.39
2,694.00	0.70	34.51	2,693.19	45.34	42.00	61.80	0.30	-0.30	-0.59
2,807.00	0.44	32.23	2,806.18	46.27	42.62	62.91	0.23	-0.23	-2.02
LAST SDI MWD SURFACE SURVEY									
2,895.00	0.24	17.48	2,894.18	46.74	42.86	63.41	0.25	-0.23	-16.76
FIRST SDI MWD PRODUCTION SURVEY									
2,990.00	1.06	297.49	2,989.18	47.33	42.14	63.36	1.10	0.86	-84.20
3,085.00	1.27	257.88	3,084.16	47.52	40.33	62.27	0.86	0.22	-41.69
3,180.00	1.43	219.00	3,179.13	46.37	38.56	60.23	0.96	0.17	-40.93
3,274.00	1.34	245.91	3,273.11	45.01	36.81	58.05	0.69	-0.10	28.63
3,369.00	1.62	259.70	3,368.07	44.32	34.48	55.96	0.47	0.29	14.52
3,464.00	1.76	276.66	3,463.03	44.25	31.71	54.03	0.54	0.15	17.85
3,559.00	2.02	289.84	3,557.98	44.99	28.69	52.52	0.53	0.27	13.87
3,654.00	1.67	269.89	3,652.93	45.55	25.73	50.93	0.76	-0.37	-21.00
3,749.00	1.67	261.80	3,747.89	45.35	22.97	48.92	0.25	0.00	-8.52
3,844.00	1.70	237.33	3,842.85	44.39	20.42	46.48	0.75	0.03	-25.76
3,939.00	2.11	275.78	3,937.81	43.81	17.49	44.07	1.38	0.43	40.47
4,034.00	1.76	270.85	4,032.75	44.01	14.29	42.05	0.41	-0.37	-5.19
4,128.00	1.71	248.96	4,126.71	43.52	11.54	39.83	0.70	-0.05	-23.29
4,223.00	1.32	250.64	4,221.68	42.65	9.18	37.59	0.41	-0.41	1.77
4,318.00	1.67	292.83	4,316.65	42.83	6.87	36.16	1.18	0.37	44.41
4,412.00	1.41	265.05	4,410.61	43.26	4.46	34.84	0.83	-0.28	-29.55
4,507.00	1.23	255.74	4,505.59	42.91	2.31	33.12	0.29	-0.19	-9.80

Company: US ROCKIES REGION PLANNING
Project: UTAH - UTM (feet), NAD27, Zone 12N
Site: NBU 920-24B
Well: NBU 920-24B
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well NBU 920-24B
TVD Reference: GL 4750 & KB 19 @ 4769.00ft (PIONEER 54)
MD Reference: GL 4750 & KB 19 @ 4769.00ft (PIONEER 54)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Single User Db

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
4,602.00	1.32	256.09	4,600.56	42.39	0.26	31.35	0.10	0.09	0.37
4,698.00	1.41	231.22	4,696.54	41.39	-1.74	29.26	0.62	0.09	-25.91
4,793.00	1.32	204.50	4,791.51	39.66	-3.10	27.07	0.67	-0.09	-28.13
4,888.00	1.14	237.10	4,886.49	38.15	-4.35	25.11	0.75	-0.19	34.32
4,982.00	1.32	212.58	4,980.47	36.73	-5.72	23.14	0.59	0.19	-26.09
5,078.00	0.97	203.88	5,076.45	35.05	-6.64	21.28	0.41	-0.36	-9.06
5,173.00	1.23	195.36	5,171.43	33.34	-7.24	19.62	0.32	0.27	-8.97
5,267.00	1.27	189.80	5,265.41	31.34	-7.68	17.84	0.14	0.04	-5.91
5,362.00	1.58	183.40	5,360.38	28.99	-7.94	15.95	0.37	0.33	-6.74
5,457.00	0.88	238.07	5,455.36	27.30	-8.64	14.23	1.36	-0.74	57.55
5,552.00	0.70	279.73	5,550.35	27.01	-9.83	13.21	0.62	-0.19	43.85
5,646.00	1.12	280.97	5,644.34	27.28	-11.29	12.41	0.45	0.45	1.32
5,741.00	0.66	274.74	5,739.33	27.50	-12.75	11.59	0.49	-0.48	-6.56
5,836.00	0.97	238.42	5,834.32	27.13	-13.98	10.48	0.62	0.33	-38.23
5,930.00	1.06	234.20	5,928.31	26.20	-15.37	8.86	0.12	0.10	-4.49
6,025.00	1.31	223.25	6,023.29	24.90	-16.82	6.92	0.35	0.26	-11.53
6,120.00	1.24	289.34	6,118.27	24.45	-18.54	5.42	1.46	-0.07	69.57
6,215.00	1.25	316.36	6,213.25	25.54	-20.22	5.08	0.61	0.01	28.44
6,309.00	2.20	335.28	6,307.20	27.92	-21.68	5.84	1.17	1.01	20.13
6,405.00	2.41	336.57	6,403.12	31.45	-23.26	7.37	0.23	0.22	1.34
6,500.00	1.93	326.58	6,498.06	34.61	-24.93	8.57	0.64	-0.51	-10.52
6,594.00	1.42	325.34	6,592.02	36.89	-26.47	9.20	0.54	-0.54	-1.32
6,689.00	2.03	339.29	6,686.97	39.43	-27.73	10.22	0.78	0.64	14.68
6,784.00	1.53	340.60	6,781.93	42.20	-28.75	11.57	0.53	-0.53	1.38
6,878.00	1.32	343.28	6,875.90	44.43	-29.47	12.71	0.23	-0.22	2.85
6,973.00	1.76	337.48	6,970.86	46.82	-30.35	13.88	0.49	0.46	-6.11
7,068.00	1.41	330.53	7,065.83	49.19	-31.48	14.85	0.42	-0.37	-7.32
7,163.00	2.02	331.76	7,160.78	51.68	-32.85	15.75	0.64	0.64	1.29
7,258.00	1.67	334.40	7,255.73	54.40	-34.24	16.82	0.38	-0.37	2.78
7,353.00	1.41	335.63	7,350.70	56.72	-35.32	17.78	0.28	-0.27	1.29
7,448.00	1.14	316.91	7,445.68	58.47	-36.45	18.31	0.52	-0.28	-19.71
7,543.00	0.91	319.28	7,540.66	59.73	-37.59	18.47	0.25	-0.24	2.49
7,638.00	1.49	344.42	7,635.64	61.49	-38.41	19.21	0.81	0.61	26.46
7,733.00	1.24	349.77	7,730.61	63.69	-38.92	20.48	0.30	-0.26	5.63
7,827.00	0.97	346.70	7,824.60	65.47	-39.29	21.54	0.29	-0.29	-3.27
7,922.00	1.14	338.09	7,919.58	67.13	-39.83	22.39	0.24	0.18	-9.06
8,017.00	0.79	334.22	8,014.57	68.60	-40.46	23.04	0.37	-0.37	-4.07
8,112.00	0.79	340	8,109.56	69.84	-40.71	23.79	0.42	0.00	30.72
8,207.00	0.62	17.29	8,204.55	70.98	-40.52	24.76	0.25	-0.18	14.62
8,302.00	0.35	24.94	8,299.55	71.74	-40.24	25.50	0.29	-0.28	8.05
8,396.00	0.62	56.67	8,393.54	72.28	-39.70	26.27	0.39	0.29	33.76
8,491.00	0.70	63.87	8,488.54	72.82	-38.75	27.31	0.12	0.08	7.58
8,586.00	0.74	97.65	8,583.53	72.99	-37.62	28.20	0.44	0.04	35.56
8,681.00	0.44	110.63	8,678.53	72.78	-36.67	28.69	0.34	-0.32	13.66

Company: US ROCKIES REGION PLANNING
Project: UTAH - UTM (feet), NAD27, Zone 12N
Site: NBU 920-24B
Well: NBU 920-24B
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well NBU 920-24B
TVD Reference: GL 4750 & KB 19 @ 4769.00ft (PIONEER 54)
MD Reference: GL 4750 & KB 19 @ 4769.00ft (PIONEER 54)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Single User Db

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
8,776.00	0.26	148.69	8,773.52	72.47	-36.21	28.76	0.30	-0.19	40.06
8,871.00	0.62	168.37	8,868.52	71.78	-36.00	28.40	0.41	0.38	20.72
8,966.00	1.32	140.07	8,963.51	70.44	-35.19	27.96	0.87	0.74	-29.79
9,060.00	1.49	147.72	9,057.48	68.57	-33.84	27.51	0.27	0.18	8.14
9,155.00	1.90	168.72	9,152.44	65.98	-32.88	26.26	0.78	0.43	22.11
9,250.00	2.11	170.92	9,247.38	62.71	-32.29	24.25	0.24	0.22	2.32
9,345.00	2.07	171.17	9,342.32	59.29	-31.75	22.10	0.04	-0.04	0.26
9,441.00	2.29	175.93	9,438.25	55.66	-31.35	19.70	0.30	0.23	4.96
9,535.00	2.37	186.48	9,532.17	51.86	-31.44	16.84	0.46	0.09	11.22
9,631.00	2.29	186.22	9,628.09	47.98	-31.87	13.70	0.08	-0.08	-0.27
9,725.00	2.11	179.45	9,722.02	44.38	-32.06	10.93	0.34	-0.19	-7.20
9,821.00	1.67	178.92	9,817.97	41.22	-32.01	8.63	0.46	-0.46	-0.55
9,916.00	1.58	182.26	9,912.93	38.52	-32.04	6.63	0.14	-0.09	3.52
10,010.00	1.60	169.69	10,006.90	35.94	-31.85	4.85	0.37	0.02	-13.37
10,105.00	1.85	169.69	10,101.85	33.13	-31.34	3.13	0.26	0.26	0.00
10,200.00	1.76	168.11	10,196.80	30.19	-30.77	1.36	0.11	-0.09	-1.66
10,295.00	1.67	178.31	10,291.76	27.38	-30.43	-0.48	0.33	-0.09	10.74
10,390.00	1.76	180.24	10,386.72	24.54	-30.39	-2.54	0.11	0.09	2.03
10,484.00	1.03	160.94	10,480.69	22.29	-30.12	-4.01	0.91	-0.78	-20.53
10,579.00	1.14	141.66	10,575.68	20.74	-29.26	-4.56	0.40	0.12	-20.29
10,674.00	1.23	130.76	10,670.65	19.34	-27.90	-4.68	0.26	0.09	-11.47
10,769.00	1.67	129.00	10,765.62	17.80	-26.05	-4.56	0.47	0.46	-1.85
10,864.00	1.85	130.41	10,860.58	15.94	-23.81	-4.41	0.19	0.19	1.48
10,959.00	1.76	139.99	10,955.53	13.82	-21.70	-4.53	0.33	-0.09	10.08
11,054.00	1.76	143.08	11,050.49	11.54	-19.89	-4.99	0.10	0.00	3.25
11,150.00	1.85	134.18	11,146.44	9.28	-17.89	-5.29	0.31	0.09	-9.27
11,245.00	1.76	142.09	11,241.39	7.06	-15.89	-5.57	0.28	-0.09	8.33
11,339.00	1.85	138.58	11,335.35	4.79	-14.00	-5.97	0.15	0.10	-3.73
11,432.00	1.85	145.87	11,428.30	2.42	-12.17	-6.47	0.25	0.00	7.84
LAST SDI MWD PRODUCTION SURVEY									
11,490.00	1.85	145.87	11,486.27	0.87	-11.12	-6.89	0.00	0.00	0.00
SDI PROJECTION TO BIT									

Design Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
183.00	183.00	0.52	0.75	FIRST SDI MWD SURFACE SURVEY
2,807.00	2,806.18	46.27	42.62	LAST SDI MWD SURFACE SURVEY
2,895.00	2,894.18	46.74	42.86	FIRST SDI MWD PRODUCTION SURVEY
11,432.00	11,428.30	2.42	-12.17	LAST SDI MWD PRODUCTION SURVEY
11,490.00	11,486.27	0.87	-11.12	SDI PROJECTION TO BIT

Company: US ROCKIES REGION PLANNING
Project: UTAH - UTM (feet), NAD27, Zone 12N
Site: NBU 920-24B
Well: NBU 920-24B
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well NBU 920-24B
TVD Reference: GL 4750 & KB 19 @ 4769.00ft (PIONEER 54)
MD Reference: GL 4750 & KB 19 @ 4769.00ft (PIONEER 54)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Single User Db

Checked By: _____	Approved By: _____	Date: _____
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Scientific Drilling
Rocky Mountain Operations

US ROCKIES REGION PLANNING

UTAH - UTM (feet), NAD27, Zone 12N

NBU 920-24B

NBU 920-24B

OH

Design: OH

Survey Report - Geographic

28 February, 2012

Anadarko 
Petroleum Corporation

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well NBU 920-24B
Project:	UTAH - UTM (feet), NAD27, Zone 12N	TVD Reference:	GL 4750 & KB 19 @ 4769.00ft (PIONEER 54)
Site:	NBU 920-24B	MD Reference:	GL 4750 & KB 19 @ 4769.00ft (PIONEER 54)
Well:	NBU 920-24B	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.1 Single User Db

Project	UTAH - UTM (feet), NAD27, Zone 12N		
Map System:	Universal Transverse Mercator (US Survey Feet)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	Zone 12N (114 W to 108 W)		

Site		NBU 920-24B, SECTION 24 T9S R20E			
Site Position:		Northing:	14,538,919.55 usft	Latitude:	40.027060
From:	Lat/Long	Easting:	2,028,624.01 usft	Longitude:	-109.613310
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in	Grid Convergence:	0.89 °

Well	NBU 920-24B, 473 FNL 2377 FEL					
Well Position	+N/-S	0.00 ft	Northing:	14,538,919.55 usft	Latitude:	40.027060
	+E/-W	0.00 ft	Easting:	2,028,624.01 usft	Longitude:	-109.613310
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	4,750.00 ft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
	IGRF2010	01/26/12	(°)	(°)	(nT)
			11.05	65.85	52,268

Design	OH				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction	
	(ft)	(ft)	(ft)	(°)	
	0.00	0.00	0.00	42.65	

Survey Program	Date	02/28/12			
From	To	Survey (Wellbore)	Tool Name	Description	
15.00	2,807.00	Survey #1 SDI MWD SURFACE (OH)	SDI MWD	SDI MWD - Standard ver 1.0.1	
2,895.00	11,490.00	Survey #2 SDI MWD PRODUCTION (OH)	SDI MWD	SDI MWD - Standard ver 1.0.1	

Survey									
Measured	Inclination	Azimuth	Vertical	+N/-S	+E/-W	Map	Map	Latitude	Longitude
Depth	(°)	(°)	Depth	(ft)	(ft)	Northing	Easting		
(ft)			(ft)			(usft)	(usft)		
0.00	0.00	0.00	0.00	0.00	0.00	14,538,919.55	2,028,624.01	40.027060	-109.613310
15.00	0.00	0.00	15.00	0.00	0.00	14,538,919.55	2,028,624.01	40.027060	-109.613310
183.00	0.62	55.43	183.00	0.52	0.75	14,538,920.08	2,028,624.75	40.027062	-109.613308
FIRST SDI MWD SURFACE SURVEY									
265.00	0.70	47.34	264.99	1.11	1.48	14,538,920.68	2,028,625.47	40.027063	-109.613305
354.00	0.62	47.08	353.99	1.80	2.23	14,538,921.39	2,028,626.22	40.027065	-109.613302
444.00	0.77	49.90	443.98	2.52	3.05	14,538,922.12	2,028,627.02	40.027067	-109.613299
534.00	0.88	52.88	533.97	3.33	4.07	14,538,922.94	2,028,628.02	40.027069	-109.613296
624.00	0.79	36.01	623.96	4.25	4.98	14,538,923.88	2,028,628.93	40.027072	-109.613292
714.00	1.14	38.82	713.95	5.45	5.91	14,538,925.09	2,028,629.83	40.027075	-109.613289
804.00	1.32	39.00	803.93	6.95	7.12	14,538,926.61	2,028,631.02	40.027079	-109.613285

Company: US ROCKIES REGION PLANNING
Project: UTAH - UTM (feet), NAD27, Zone 12N
Site: NBU 920-24B
Well: NBU 920-24B
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Local Co-ordinate Reference: Well NBU 920-24B
TVD Reference: GL 4750 & KB 19 @ 4769.00ft (PIONEER 54)
MD Reference: GL 4750 & KB 19 @ 4769.00ft (PIONEER 54)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Single User Db

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
894.00	1.41	42.25	893.90	8.58	8.52	14,538,928.26	2,028,632.39	40.027084	-109.613280
984.00	1.49	44.88	983.87	10.23	10.09	14,538,929.93	2,028,633.94	40.027088	-109.613274
1,074.00	1.76	46.91	1,073.84	12.00	11.92	14,538,931.73	2,028,635.75	40.027093	-109.613268
1,164.00	1.67	46.29	1,163.80	13.85	13.88	14,538,933.61	2,028,637.67	40.027098	-109.613261
1,254.00	1.76	49.89	1,253.76	15.65	15.89	14,538,935.44	2,028,639.65	40.027103	-109.613254
1,344.00	1.67	42.86	1,343.71	17.50	17.84	14,538,937.32	2,028,641.57	40.027108	-109.613247
1,434.00	1.76	44.53	1,433.67	19.45	19.70	14,538,939.30	2,028,643.40	40.027113	-109.613240
1,524.00	1.58	40.84	1,523.64	21.37	21.48	14,538,941.25	2,028,645.15	40.027119	-109.613234
1,614.00	1.58	39.17	1,613.60	23.27	23.07	14,538,943.18	2,028,646.72	40.027124	-109.613228
1,704.00	1.67	43.13	1,703.57	25.19	24.75	14,538,945.12	2,028,648.37	40.027129	-109.613222
1,794.00	1.85	40.75	1,793.52	27.25	26.60	14,538,947.21	2,028,650.18	40.027135	-109.613215
1,884.00	1.93	43.21	1,883.47	29.45	28.58	14,538,949.44	2,028,652.13	40.027141	-109.613208
1,974.00	1.93	37.33	1,973.42	31.76	30.54	14,538,951.78	2,028,654.05	40.027147	-109.613201
2,064.00	2.02	42.34	2,063.37	34.14	32.53	14,538,954.19	2,028,656.00	40.027154	-109.613194
2,154.00	1.67	45.41	2,153.32	36.23	34.53	14,538,956.31	2,028,657.97	40.027160	-109.613187
2,244.00	1.40	41.18	2,243.29	37.98	36.19	14,538,958.09	2,028,659.60	40.027164	-109.613181
2,334.00	1.50	44.17	2,333.26	39.65	37.73	14,538,959.78	2,028,661.12	40.027169	-109.613176
2,424.00	1.41	39.29	2,423.23	41.35	39.26	14,538,961.51	2,028,662.62	40.027174	-109.613170
2,514.00	1.06	31.09	2,513.21	42.92	40.39	14,538,963.10	2,028,663.72	40.027178	-109.613166
2,604.00	0.97	35.04	2,603.20	44.26	41.25	14,538,964.45	2,028,664.57	40.027182	-109.613163
2,694.00	0.70	34.51	2,693.19	45.34	42.00	14,538,965.54	2,028,665.30	40.027185	-109.613160
2,807.00	0.44	32.23	2,806.18	46.27	42.62	14,538,966.48	2,028,665.91	40.027187	-109.613158
LAST SDI MWD SURFACE SURVEY									
2,895.00	0.24	17.48	2,894.18	46.74	42.86	14,538,966.95	2,028,666.14	40.027188	-109.613157
FIRST SDI MWD PRODUCTION SURVEY									
2,990.00	1.06	297.49	2,989.18	47.33	42.14	14,538,967.53	2,028,665.41	40.027190	-109.613160
3,085.00	1.27	257.88	3,084.16	47.52	40.33	14,538,967.69	2,028,663.60	40.027191	-109.613166
3,180.00	1.43	219.00	3,179.13	46.37	38.56	14,538,966.52	2,028,661.84	40.027187	-109.613173
3,274.00	1.34	245.91	3,273.11	45.01	36.81	14,538,965.13	2,028,660.12	40.027184	-109.613179
3,369.00	1.62	259.70	3,368.07	44.32	34.48	14,538,964.40	2,028,657.80	40.027182	-109.613187
3,464.00	1.76	276.66	3,463.03	44.25	31.71	14,538,964.29	2,028,655.03	40.027182	-109.613197
3,559.00	2.02	289.84	3,557.98	44.99	28.69	14,538,964.98	2,028,651.99	40.027184	-109.613208
3,654.00	1.67	269.89	3,652.93	45.55	25.73	14,538,965.50	2,028,649.02	40.027185	-109.613218
3,749.00	1.67	261.80	3,747.89	45.35	22.97	14,538,965.25	2,028,646.27	40.027185	-109.613228
3,844.00	1.70	237.33	3,842.85	44.39	20.42	14,538,964.25	2,028,643.73	40.027182	-109.613237
3,939.00	2.11	275.78	3,937.81	43.81	17.49	14,538,963.62	2,028,640.81	40.027180	-109.613248
4,034.00	1.76	270.85	4,032.75	44.01	14.29	14,538,963.77	2,028,637.61	40.027181	-109.613259
4,128.00	1.71	248.96	4,126.71	43.52	11.54	14,538,963.25	2,028,634.87	40.027180	-109.613269
4,223.00	1.32	250.64	4,221.68	42.65	9.18	14,538,962.34	2,028,632.53	40.027177	-109.613277
4,318.00	1.67	292.83	4,316.65	42.83	6.87	14,538,962.48	2,028,630.22	40.027178	-109.613286
4,412.00	1.41	265.05	4,410.61	43.26	4.46	14,538,962.87	2,028,627.80	40.027179	-109.613294
4,507.00	1.23	255.74	4,505.59	42.91	2.31	14,538,962.49	2,028,625.65	40.027178	-109.613302
4,602.00	1.32	256.09	4,600.56	42.39	0.26	14,538,961.94	2,028,623.61	40.027176	-109.613309
4,698.00	1.41	231.22	4,696.54	41.39	-1.74	14,538,960.90	2,028,621.63	40.027174	-109.613316
4,793.00	1.32	204.50	4,791.51	39.66	-3.10	14,538,959.15	2,028,620.29	40.027169	-109.613321
4,888.00	1.14	237.10	4,886.49	38.15	-4.35	14,538,957.63	2,028,619.07	40.027165	-109.613326
4,982.00	1.32	212.58	4,980.47	36.73	-5.72	14,538,956.19	2,028,617.72	40.027161	-109.613331
5,078.00	0.97	203.88	5,076.45	35.05	-6.64	14,538,954.50	2,028,616.82	40.027156	-109.613334
5,173.00	1.23	195.36	5,171.43	33.34	-7.24	14,538,952.77	2,028,616.25	40.027152	-109.613336
5,267.00	1.27	189.80	5,265.41	31.34	-7.68	14,538,950.76	2,028,615.84	40.027146	-109.613338
5,362.00	1.58	183.40	5,360.38	28.99	-7.94	14,538,948.41	2,028,615.62	40.027140	-109.613339
5,457.00	0.88	238.07	5,455.36	27.30	-8.64	14,538,946.71	2,028,614.95	40.027135	-109.613341
5,552.00	0.70	279.73	5,550.35	27.01	-9.83	14,538,946.40	2,028,613.76	40.027134	-109.613345
5,646.00	1.12	280.97	5,644.34	27.28	-11.29	14,538,946.65	2,028,612.29	40.027135	-109.613351
5,741.00	0.66	274.74	5,739.33	27.50	-12.75	14,538,946.85	2,028,610.83	40.027136	-109.613356

Company: US ROCKIES REGION PLANNING
Project: UTAH - UTM (feet), NAD27, Zone 12N
Site: NBU 920-24B
Well: NBU 920-24B
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well NBU 920-24B
TVD Reference: GL 4750 & KB 19 @ 4769.00ft (PIONEER 54)
MD Reference: GL 4750 & KB 19 @ 4769.00ft (PIONEER 54)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Single User Db

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
5,836.00	0.97	238.42	5,834.32	27.13	-13.98	14,538,946.46	2,028,609.61	40.027135	-109.613360	
5,930.00	1.06	234.20	5,928.31	26.20	-15.37	14,538,945.51	2,028,608.24	40.027132	-109.613365	
6,025.00	1.31	223.25	6,023.29	24.90	-16.82	14,538,944.18	2,028,606.80	40.027128	-109.613370	
6,120.00	1.24	289.34	6,118.27	24.45	-18.54	14,538,943.71	2,028,605.10	40.027127	-109.613376	
6,215.00	1.25	316.36	6,213.25	25.54	-20.22	14,538,944.77	2,028,603.39	40.027130	-109.613382	
6,309.00	2.20	335.28	6,307.20	27.92	-21.68	14,538,947.13	2,028,601.89	40.027137	-109.613388	
6,405.00	2.41	336.57	6,403.12	31.45	-23.26	14,538,950.63	2,028,600.27	40.027146	-109.613393	
6,500.00	1.93	326.58	6,498.06	34.61	-24.93	14,538,953.77	2,028,598.54	40.027155	-109.613399	
6,594.00	1.42	325.34	6,592.02	36.89	-26.47	14,538,956.02	2,028,596.97	40.027161	-109.613405	
6,689.00	2.03	339.29	6,686.97	39.43	-27.73	14,538,958.55	2,028,595.67	40.027168	-109.613409	
6,784.00	1.53	340.60	6,781.93	42.20	-28.75	14,538,961.30	2,028,594.61	40.027176	-109.613413	
6,878.00	1.32	343.28	6,875.90	44.43	-29.47	14,538,963.51	2,028,593.85	40.027182	-109.613416	
6,973.00	1.76	337.48	6,970.86	46.82	-30.35	14,538,965.89	2,028,592.94	40.027189	-109.613419	
7,068.00	1.41	330.53	7,065.83	49.19	-31.48	14,538,968.24	2,028,591.77	40.027195	-109.613423	
7,163.00	2.02	331.76	7,160.78	51.68	-32.85	14,538,970.71	2,028,590.36	40.027202	-109.613428	
7,258.00	1.67	334.40	7,255.73	54.40	-34.24	14,538,973.41	2,028,588.93	40.027209	-109.613433	
7,353.00	1.41	335.63	7,350.70	56.72	-35.32	14,538,975.71	2,028,587.81	40.027216	-109.613436	
7,448.00	1.14	316.91	7,445.68	58.47	-36.45	14,538,977.44	2,028,586.66	40.027221	-109.613440	
7,543.00	0.91	319.28	7,540.66	59.73	-37.59	14,538,978.69	2,028,585.50	40.027224	-109.613445	
7,638.00	1.49	344.42	7,635.64	61.49	-38.41	14,538,980.44	2,028,584.65	40.027229	-109.613447	
7,733.00	1.24	349.77	7,730.61	63.69	-38.92	14,538,982.63	2,028,584.10	40.027235	-109.613449	
7,827.00	0.97	346.70	7,824.60	65.47	-39.29	14,538,984.40	2,028,583.71	40.027240	-109.613451	
7,922.00	1.14	338.09	7,919.58	67.13	-39.83	14,538,986.05	2,028,583.14	40.027244	-109.613453	
8,017.00	0.79	334.22	8,014.57	68.60	-40.46	14,538,987.51	2,028,582.48	40.027248	-109.613455	
8,112.00	0.79	340	8,109.56	69.84	-40.71	14,538,988.75	2,028,582.22	40.027252	-109.613456	
8,207.00	0.62	17.29	8,204.55	70.98	-40.52	14,538,989.89	2,028,582.39	40.027255	-109.613455	
8,302.00	0.35	24.94	8,299.55	71.74	-40.24	14,538,990.65	2,028,582.66	40.027257	-109.613454	
8,396.00	0.62	56.67	8,393.54	72.28	-39.70	14,538,991.20	2,028,583.19	40.027259	-109.613452	
8,491.00	0.70	63.87	8,488.54	72.82	-38.75	14,538,991.75	2,028,584.14	40.027260	-109.613449	
8,586.00	0.74	97.65	8,583.53	72.99	-37.62	14,538,991.94	2,028,585.26	40.027261	-109.613445	
8,681.00	0.44	110.63	8,678.53	72.78	-36.67	14,538,991.75	2,028,586.21	40.027260	-109.613441	
8,776.00	0.26	148.69	8,773.52	72.47	-36.21	14,538,991.44	2,028,586.67	40.027259	-109.613440	
8,871.00	0.62	168.37	8,868.52	71.78	-36.00	14,538,990.76	2,028,586.90	40.027257	-109.613439	
8,966.00	1.32	140.07	8,963.51	70.44	-35.19	14,538,989.43	2,028,587.73	40.027254	-109.613436	
9,060.00	1.49	147.72	9,057.48	68.57	-33.84	14,538,987.59	2,028,589.10	40.027248	-109.613431	
9,155.00	1.90	168.72	9,152.44	65.98	-32.88	14,538,985.01	2,028,590.11	40.027241	-109.613428	
9,250.00	2.11	170.92	9,247.38	62.71	-32.29	14,538,981.75	2,028,590.74	40.027232	-109.613426	
9,345.00	2.07	171.17	9,342.32	59.29	-31.75	14,538,978.34	2,028,591.34	40.027223	-109.613424	
9,441.00	2.29	175.93	9,438.25	55.66	-31.35	14,538,974.72	2,028,591.80	40.027213	-109.613422	
9,535.00	2.37	186.48	9,532.17	51.86	-31.44	14,538,970.91	2,028,591.77	40.027202	-109.613423	
9,631.00	2.29	186.22	9,628.09	47.98	-31.87	14,538,967.03	2,028,591.40	40.027192	-109.613424	
9,725.00	2.11	179.45	9,722.02	44.38	-32.06	14,538,963.43	2,028,591.27	40.027182	-109.613425	
9,821.00	1.67	178.92	9,817.97	41.22	-32.01	14,538,960.26	2,028,591.36	40.027173	-109.613425	
9,916.00	1.58	182.26	9,912.93	38.52	-32.04	14,538,957.57	2,028,591.38	40.027166	-109.613425	
10,010.00	1.60	169.69	10,006.90	35.94	-31.85	14,538,954.99	2,028,591.60	40.027159	-109.613424	
10,105.00	1.85	169.69	10,101.85	33.13	-31.34	14,538,952.18	2,028,592.16	40.027151	-109.613422	
10,200.00	1.76	168.11	10,196.80	30.19	-30.77	14,538,949.26	2,028,592.78	40.027143	-109.613420	
10,295.00	1.67	178.31	10,291.76	27.38	-30.43	14,538,946.45	2,028,593.16	40.027135	-109.613419	
10,390.00	1.76	180.24	10,386.72	24.54	-30.39	14,538,943.61	2,028,593.24	40.027127	-109.613419	
10,484.00	1.03	160.94	10,480.69	22.29	-30.12	14,538,941.37	2,028,593.54	40.027121	-109.613418	
10,579.00	1.14	141.66	10,575.68	20.74	-29.26	14,538,939.84	2,028,594.43	40.027117	-109.613415	
10,674.00	1.23	130.76	10,670.65	19.34	-27.90	14,538,938.45	2,028,595.81	40.027113	-109.613410	
10,769.00	1.67	129.00	10,765.62	17.80	-26.05	14,538,936.94	2,028,597.69	40.027109	-109.613403	
10,864.00	1.85	130.41	10,860.58	15.94	-23.81	14,538,935.11	2,028,599.96	40.027104	-109.613395	
10,959.00	1.76	139.99	10,955.53	13.82	-21.70	14,538,933.03	2,028,602.10	40.027098	-109.613388	

Company: US ROCKIES REGION PLANNING
Project: UTAH - UTM (feet), NAD27, Zone 12N
Site: NBU 920-24B
Well: NBU 920-24B
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well NBU 920-24B
TVD Reference: GL 4750 & KB 19 @ 4769.00ft (PIONEER 54)
MD Reference: GL 4750 & KB 19 @ 4769.00ft (PIONEER 54)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Single User Db

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
11,054.00	1.76	143.08	11,050.49	11.54	-19.89	14,538,930.78	2,028,603.95	40.027092	-109.613381
11,150.00	1.85	134.18	11,146.44	9.28	-17.89	14,538,928.55	2,028,605.98	40.027086	-109.613374
11,245.00	1.76	142.09	11,241.39	7.06	-15.89	14,538,926.36	2,028,608.01	40.027079	-109.613367
11,339.00	1.85	138.58	11,335.35	4.79	-14.00	14,538,924.12	2,028,609.93	40.027073	-109.613360
11,432.00	1.85	145.87	11,428.30	2.42	-12.17	14,538,921.78	2,028,611.81	40.027067	-109.613354
LAST SDI MWD PRODUCTION SURVEY									
11,490.00	1.85	145.87	11,486.27	0.87	-11.12	14,538,920.24	2,028,612.88	40.027062	-109.613350
SDI PROJECTION TO BIT									

Design Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
183.00	183.00	0.52	0.75	FIRST SDI MWD SURFACE SURVEY
2,807.00	2,806.18	46.27	42.62	LAST SDI MWD SURFACE SURVEY
2,895.00	2,894.18	46.74	42.86	FIRST SDI MWD PRODUCTION SURVEY
11,432.00	11,428.30	2.42	-12.17	LAST SDI MWD PRODUCTION SURVEY
11,490.00	11,486.27	0.87	-11.12	SDI PROJECTION TO BIT

Checked By: _____ Approved By: _____ Date: _____

STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		FORM 9
SUNDRY NOTICES AND REPORTS ON WELLS Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		5. LEASE DESIGNATION AND SERIAL NUMBER: UTU-0579
1. TYPE OF WELL Gas Well		6. IF INDIAN, ALLOTTEE OR TRIBE NAME: Ute
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P.		7. UNIT or CA AGREEMENT NAME: NATURAL BUTTES
3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		8. WELL NAME and NUMBER: NBU 920-24B
4. LOCATION OF WELL FOOTAGES AT SURFACE: 0473 FNL 2377 FEL QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: NWNE Section: 24 Township: 09.0S Range: 20.0E Meridian: S		9. API NUMBER: 43047501130000
PHONE NUMBER: 720 929-6514		9. FIELD and POOL or WILDCAT: NATURAL BUTTES
COUNTY: UINTAH		STATE: UTAH
11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA		
TYPE OF SUBMISSION	TYPE OF ACTION	
<input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:	<input type="checkbox"/> ACIDIZE <input type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> DEEPEN <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PRODUCTION START OR RESUME <input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> WATER SHUTOFF <input type="checkbox"/> WILDCAT WELL DETERMINATION	
<input checked="" type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion: 7/24/2013	<input type="checkbox"/> ALTER CASING <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> SI TA STATUS EXTENSION <input checked="" type="checkbox"/> OTHER	
<input type="checkbox"/> SPUD REPORT Date of Spud:	<input type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CONVERT WELL TYPE <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> PLUG BACK <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION <input type="checkbox"/> TEMPORARY ABANDON <input type="checkbox"/> WATER DISPOSAL <input type="checkbox"/> APD EXTENSION	
<input type="checkbox"/> DRILLING REPORT Report Date:	OTHER: PRODUCTION ENHANCEMENT	
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc. The operator conducted the following workover/wellbore cleanout on the subject well on 7/24/2013. Please see the attached chronological well history for details. Thank you		
Accepted by the Utah Division of Oil, Gas and Mining FOR RECORD ONLY August 19, 2013		
NAME (PLEASE PRINT) Teena Paulo	PHONE NUMBER 720 929-6236	TITLE Staff Regulatory Specialist
SIGNATURE N/A	DATE 8/16/2013	

US ROCKIES REGION
Operation Summary Report

Well: NBU 920-24B				Spud Date: 2/8/2012					
Project: UTAH-UINTAH				Site: NBU 920-24B				Rig Name No: SWABBCO 8/8	
Event: WELL WORK EXPENSE				Start Date: 7/24/2013			End Date: 7/26/2013		
Active Datum: RKB @4,769.00usft (above Mean Sea Level)				UWI: NW/NE/0/9/S/20/E/24/0/0/26/PM/N/473/E/0/2377/0/0					
Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation	
7/24/2013	6:45 - 7:00	0.25	MAINT	48		P		HSM, JSA	
	7:00 - 11:00	4.00	MAINT	30	A	P		ROAD RIG FROM NBU 920-24I TO NBU 920-24B, MIRU, 80# FCP, CONTRIL WELL W/ 20 BBLS T-MAC, ND WH, ADD 10' SUB UNDER TBG HANGER, NU BOP'S, RU FLOOR & TBG EQUIP	
	11:00 - 16:00	5.00	MAINT	31		P		WORK STUCK TBG FOR 4 HRS STILL STUCK, DROP STANDING VALVE & FILL TBG W/ WTR, WORK TBG MORE STILL STUCK, SDFN	
7/25/2013	6:45 - 7:00	0.25	MAINT	48		P		HSM, JSA	
	7:00 - 10:30	3.50	MAINT	34	A	P		50# FCP, MIRU CUTTERS WIRELINE, RIH W/ STUCK PIPE LOG, FIND CSG BRIDGE FROM 8610' TO 8630', POOH W/ LOGGING TOOLS, RIH W/ 1' (4 HOLE) TBG PUNCH, PUNCH TBG @ 8620', POOH W/ TBG PUNCH, RD CUTTERS	
	10:30 - 17:30	7.00	MAINT	31	I	P		P/U ON TBG STILL STUCK, WORK TBG FOR 15 MINS & TBG PULLED FREE, MIRU SCAN TECH, TOO H & SCAN 2-3/8" TBG, SCAN SHOWED A TOTAL OF 344 JTS W/ 331 GOOD JTS & 13 BAD, HEAVY EXTERNAL SCALE FROM JOINT 268 TO 344	
7/26/2013	6:45 - 7:00	0.25	MAINT	48		P		HSM, JSA	
	7:00 - 9:30	2.50	MAINT	31	I	P		125# FCP, M/U 3-7/8" MILL & POBS, TIH W/ 2-3/8" TBG, TAG FILL @ 8547'	
	9:30 - 11:30	2.00	MAINT	44	D	P		MIRU PWR SWVL, MIRU GROSS FOAM RECIRC UNIT, ESTB CIRC IN 45 MINS, C/O FROM 8547 TO 8689' & FELL THROUGH, HANG BACK PWR SWVL, TOO H LD 5 JTS & REMOVE STRING FLOAT	
	11:30 - 12:30	1.00	MAINT	31	I	P		TIH TAG FILL @ 11,317'	
	12:30 - 14:00	1.50	MAINT	44	D	P		P/U PRW SWVL, ESTB CIRC IN 1HR, C/O 20' & HIT OLD BIT SUB @ 11,337' 101' BRLOW BTM PERF, CIRC WELL CLEAN	
	14:00 - 16:30	2.50	MAINT	31	I	P		PUH, LD 13 JTS ON TRAILER, LAND TBG ON HANGER W/ 345 JTS L-80 TBG, ND BOP'S, NU WH, DROP BALL & USE RECIRC UNIT TO SHEAR BIT OFF W/ 1000PSI, SWI, SDFWE	
								KB 19' HANGER .83' 345 JTS 2-3/8" L-80 10925.90' POBS HALF W/ LSN 2.20' EOT @ 10947.93' WLTR 0 BBLS	

STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		FORM 9
SUNDRY NOTICES AND REPORTS ON WELLS Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		5. LEASE DESIGNATION AND SERIAL NUMBER: UTU-0579
1. TYPE OF WELL Gas Well		6. IF INDIAN, ALLOTTEE OR TRIBE NAME: Ute
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P.		7. UNIT or CA AGREEMENT NAME: NATURAL BUTTES
3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		8. WELL NAME and NUMBER: NBU 920-24B
4. LOCATION OF WELL FOOTAGES AT SURFACE: 0473 FNL 2377 FEL QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: NWNE Section: 24 Township: 09.0S Range: 20.0E Meridian: S		9. API NUMBER: 43047501130000
PHONE NUMBER: 720 929-6582		9. FIELD and POOL or WILDCAT: NATURAL BUTTES
COUNTY: UINTAH		STATE: UTAH
11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA		
TYPE OF SUBMISSION	TYPE OF ACTION	
<input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:	<input type="checkbox"/> ACIDIZE <input type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> DEEPEN <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PRODUCTION START OR RESUME <input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> WATER SHUTOFF <input type="checkbox"/> WILDCAT WELL DETERMINATION	
<input checked="" type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion: 8/26/2013	<input type="checkbox"/> ALTER CASING <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> SI TA STATUS EXTENSION <input checked="" type="checkbox"/> OTHER	
<input type="checkbox"/> SPUD REPORT Date of Spud:	<input type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CONVERT WELL TYPE <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> PLUG BACK <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION <input type="checkbox"/> TEMPORARY ABANDON <input type="checkbox"/> WATER DISPOSAL <input type="checkbox"/> APD EXTENSION	
<input type="checkbox"/> DRILLING REPORT Report Date:	OTHER: Production Enhancement	
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc. THE OPERATOR CONDUCTED THE FOLLOWING WORKOVER/WELLBORE CLEANOUT ON THE SUBJECT WELL ON 08/26/2013. PLEASE SEE THE ATTACHED CHRONOLOGICAL WELL HISTORY FOR DETAILS. THANK YOU.		
Accepted by the Utah Division of Oil, Gas and Mining FOR RECORD ONLY January 24, 2014		
NAME (PLEASE PRINT) Kay E. Kelly	PHONE NUMBER 720 929 6582	TITLE Regulatory Analyst
SIGNATURE N/A	DATE 1/23/2014	

US ROCKIES REGION
Operation Summary Report

Well: NBU 920-24B					Spud Date: 2/8/2012				
Project: UTAH-UINTAH				Site: NBU 920-24B				Rig Name No: SWABBCO 8/8	
Event: WELL WORK EXPENSE				Start Date: 7/24/2013				End Date: 7/26/2013	
Active Datum: RKB @4,769.00usft (above Mean Sea Level)				UWI: NW/NE/0/9/S/20/E/24/0/0/26/PM/N/473/E/0/2377/0/0					
Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation	
7/24/2013	6:45 - 7:00	0.25	MAINT	48		P		HSM, JSA	
	7:00 - 11:00	4.00	MAINT	30	A	P		ROAD RIG FROM NBU 920-24I TO NBU 920-24B, MIRU, 80# FCP, CONTRIL WELL W/ 20 BBLS T-MAC, ND WH, ADD 10' SUB UNDER TBG HANGER, NU BOP'S, RU FLOOR & TBG EQUIP	
	11:00 - 16:00	5.00	MAINT	31		P		WORK STUCK TBG FOR 4 HRS STILL STUCK, DROP STANDING VALVE & FILL TBG W/ WTR, WORK TBG MORE STILL STUCK, SDFN	
7/25/2013	6:45 - 7:00	0.25	MAINT	48		P		HSM, JSA	
	7:00 - 10:30	3.50	MAINT	34	A	P		50# FCP, MIRU CUTTERS WIRELINE, RIH W/ STUCK PIPE LOG, FIND CSG BRIDGE FROM 8610' TO 8630', POOH W/ LOGGING TOOLS, RIH W/ 1' (4 HOLE) TBG PUNCH, PUNCH TBG @ 8620', POOH W/ TBG PUNCH, RD CUTTERS	
	10:30 - 17:30	7.00	MAINT	31	I	P		P/U ON TBG STILL STUCK, WORK TBG FOR 15 MINS & TBG PULLED FREE, MIRU SCAN TECH, TOO H & SCAN 2-3/8" TBG, SCAN SHOWED A TOTAL OF 344 JTS W/ 331 GOOD JTS & 13 BAD, HEAVY EXTERNAL SCALE FROM JOINT 268 TO 344	
7/26/2013	6:45 - 7:00	0.25	MAINT	48		P		HSM, JSA	
	7:00 - 9:30	2.50	MAINT	31	I	P		125# FCP, M/U 3-7/8" MILL & POBS, TIH W/ 2-3/8" TBG, TAG FILL @ 8547'	
	9:30 - 11:30	2.00	MAINT	44	D	P		MIRU PWR SWVL, MIRU GROSS FOAM RECIRC UNIT, ESTB CIRC IN 45 MINS, C/O FROM 8547 TO 8689' & FELL THROUGH, HANG BACK PWR SWVL, TOO H LD 5 JTS & REMOVE STRING FLOAT	
	11:30 - 12:30	1.00	MAINT	31	I	P		TIH TAG FILL @ 11,317'	
	12:30 - 14:00	1.50	MAINT	44	D	P		P/U PRW SWVL, ESTB CIRC IN 1HR, C/O 20' & HIT OLD BIT SUB @ 11,337' 101' BRLOW BTM PERF, CIRC WELL CLEAN	
	14:00 - 16:30	2.50	MAINT	31	I	P		PUH, LD 13 JTS ON TRAILER, LAND TBG ON HANGER W/ 345 JTS L-80 TBG, ND BOP'S, NU WH, DROP BALL & USE RECIRC UNIT TO SHEAR BIT OFF W/ 1000PSI, SWI, SDFWE	
								KB 19' HANGER .83' 345 JTS 2-3/8" L-80 10925.90' POBS HALF W/ LSN 2.20' EOT @ 10947.93' WLTR 0 BBLS	